BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB:

A Quarterly Journal of Ornithology.

VOLUME I.

Editor,
J. A. ALLEN.

Associate Editors,
S. F. BAIRD AND ELLIOTT COUES.

CAMBRIDGE, MASS.:
PUBLISHED BY THE CLUB.
1876.

University Press: Welch, Bigelow, & Co.,
Cambridge.

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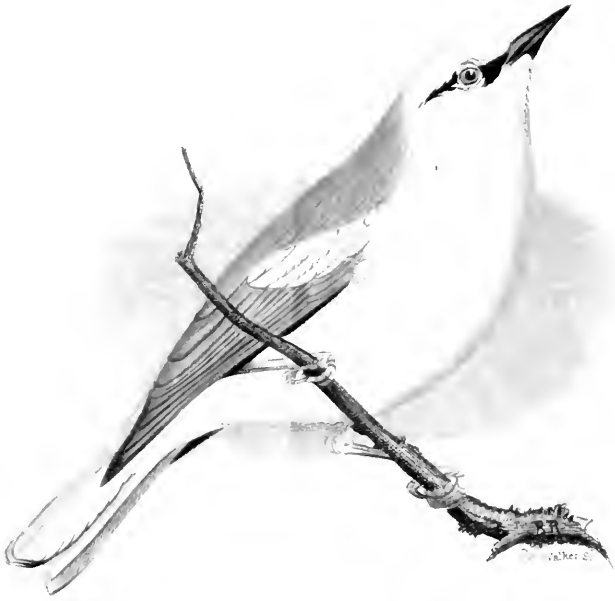

QUARTERLY BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB.

Vol. I. APRIL, 1876. No. 1.

DESCRIPTION OF A NEW SPECIES OF HELMINTHOPHAGA.

BY WM. BREWSTER.

HELMINTHOPHAGA LEUCOBRONCHIALIS. PL. 1*

Adult male: summer plumage. Crown, bright yellow, slightly tinged with olive on the occiput. Greater and middle wing coverts, yellow, not so bright as the crown. Superciliary line, cheeks, throat and entire under parts; silky-white, with a slight tinge of pale yellow on the breast. Dorsal surface, —exclusive of nape which is clear ashy—washed with yellow, as are also the outer margins of the secondaries. A narrow line of clear black passes from the base of the upper mandible, through and to a short distance behind the eye, interrupted however by the lower eyelid, which is distinctly white. No trace of black on the cheeks or throat, even upon raising the feathers. Bill black. Feet, dark brown. Dimensions—length, 5.19; extent, 7.88; wing, 2.45; tarsus, .71; tail, 1.86; culmen, .53.

It will be seen from the above description that this bird resembles most closely the Golden-winged Warbler, (*Helminthophaga chrysoptera.*)

The entire absence of black or ashy on the cheeks and throat, the peculiar character of the superciliary line, and the white lower eyelid, present however differences not to be reconciled with any known seasonal or accidental variation of that species. The restricted line of black through the eye gives the head a remarkable similarity to that of *Helminthophaga pinus*, but the semblance goes no farther.

The specimen above described was shot by the writer in Newtonville, Mass., May 18, 1870. It was in full song when taken and was flitting about in a thicket of birches near a swampy piece of oak and maple woods. As nearly as can be remembered it did not differ much in either voice or actions

* The original of our plate was drawn and colored by Robert Ridgeway, Esq., of the Smithsonian Institution, and presented by him to Mr. Brewster.

from *H. chrysoptera*. The first notice of this specimen appeared in the "American Sportsman," vol. 5, p. 33. To speculate on the probable home or range of a bird so little known would be at the present time idle. Whether it must be placed in the same category with the unique *Euspiza Townsendi*, *Regulus Cuvieri*, etc., or like *Dendræca Kirklandi*, will turn up occasionally in the future at different points, or still again as in the case of *Centronyx Bairdii*, will be found in large numbers, time alone can decide. Every fixed species of bird is probably common somewhere. There is always some well stocked reservoir however restricted in area, from which the choicest rarities emanate, but to locate this avian well-spring is not seldom an undertaking of difficulty.

As previously remarked the differences in coloration in the present bird from any of its allies are so great, and of such a nature, as to render any theory of accidental variation exceedingly unlikely, while hybrids—at least among the smaller species of undomesticated birds—are of such shadowy and problematical existence that their probable bearing upon the present case is hardly worthy of consideration.

It is not a little remarkable that another species* in the same genus as this, and one too apparently quite as strongly characterized, should have been brought to light at so nearly the same time.

THE COMMON BUZZARD HAWK (*BUTEO VULGARIS*) OF EUROPE IN NORTH AMERICA.

BY C. J. MAYNARD.

Late in the autumn of 1873 I received a box of bird skins from Mr. J. D. Allen, of Paw Paw, Mich. They consisted mainly of Hawks, among which was a specimen that instantly attracted my attention, for it was quite peculiar in its markings. The skin was evidently that of a *Buteo*, but I could not make it agree with any of the plumages of the species which had come under my observation. This was the result of a hasty examination, for being extremely busy at the time I laid it one side for further comparison.

Later study upon it proved as nearly as possible, without

* *Helminthophaga Lawrencii*, Herrick. Proc. Acad. Natural Science, Phila., 1874, pl. 15, p. 229.

actual comparison with like skins, that it was identical with the *Buteo vulgaris* of Europe. Supposing that Mr. Allen had quite probably received it from abroad the matter rested here; but as there was still some uncertainty as to whether it was that species, on account of my not having compared it with typical specimens, the question would arise in my mind every time I saw the skin.

Various ornithological friends examined the specimen and expressed some opinion about it, yet all were inclined to believe that it was a European bird, while I never gave the time necessary for settling the matter by writing Mr. Allen. Thus the skin had been lying in my collection until the past autumn, when at the request of Mr. Brewster I showed it to our mutual friend, Mr. Henry Henshaw, who urged me to let him take it to Washington, that it might be examined by Mr. Rob't Ridgway.

Shortly after this Mr. Henshaw informed me, per letter, that it was indeed *Buteo vulgaris*, but that there was a decided improbability that it was taken on this side of the Atlantic. Curious to know its history I wrote to Mr. Allen, asking him if he remembered the specimen, and if he could tell me where it was taken.

The reply was quite unexpected, for Mr. Allen stated that he remembered the bird well, and as there were peculiar circumstances connected with its capture he recollected clearly that it was shot in Michigan. I then wrote again, giving him for the first time an account of the interest which was attached to the capture of this species in the United States, and begged him to relate all he knew about it. To this epistle I received the following reply. As Mr. Allen's account is not only interesting but important as proving beyond the shadow of a doubt that the bird in question was actually taken in Michigan, I give his letter verbatim. I will, however, preface it by saying that all the other Hawks sent to me by Mr. Allen were correctly labeled "Red-tailed," "Red-shouldered," etc., but this bore the simple legend "Hawk." This fact, together with its extremely peculiar plumage, rendered it easy for him to remember what particular skin was under consideration.

"PAW PAW, MICH., Jan. 16, 1876.

MR. MAYNARD—

Dear Sir:—Yours at hand and noted. I am surprised as well as pleased to learn that the Hawk proves to be so valuable and interesting a specimen. When I shot it I was unable to decide what it was,

but rather thought it was an immature specimen of *Buteo lineatus*, but being uncertain did not give it a specific name when I sent it to you. The circumstances connected with its capture are as follows:

Returning one morning from the head of a small pond in the vicinity of Paw Paw, Mich., where I had been duck shooting, I discovered a Hawk perched on the dead branch of a leaning tree that grew from the bank at the water's edge.

I was in my boat, and at least twenty-five rods from the tree, in full view of the bird, which was eyeing me attentively, so I had no chance of approaching him except in full view, and as he appeared about to fly I gave up all hopes of getting a shot at him. But to my surprise he described a complete circle and came nearly over my head, when I fired at him.

He continued his flight in an awkward and laborious manner until he reached the shore; then dropped dead within a few feet of the very tree from which he started.

I think that this was about the first of October, 1873, but am not certain about the exact date. I have often thought of the peculiar movement of this bird. Here, when I had given up all hopes of approaching him he should fly to me, as it were, to receive his death wound, then return again to the shore to suffer himself to fall on dry ground. I may add that I have never had any birds directly from Europe, and none larger than an English Fieldfare.

Respectfully, yours,

J. D. ALLEN."

Although this species has been excluded from our ornithologies for many years, yet this is not the first instance on record of the capture of *Buteo vulgaris* in North America. As early as 1838, Audubon made mention of it. In Vol. IV, page 508 of Ornithological Biography he says, speaking of his illustration, [Pl. 372]: "The specimen from which the figure before you was taken was shot by Dr. Townsend on a rock near the Columbia River, on which it had its nest."

Then follows Audubon's description, which agrees in every particular with my specimen; differing utterly from that of Swainson's Hawk (*Buteo Swainsoni*), which I have before me, and which more recent authors appear to think Audubon had in hand when he made his description. I give below the main points of difference between Audubon's description and Swainson's Hawk, which will also apply equally to my specimen:— "Feet, short, robust." Swainson's has quite slender tarsi. "Wings; long, broad, the fourth quill longest." Swainson's has the third the longest. "The third next, the fifth very little shorter, the second longer than fifth." Swainson's has the fourth next longest, the fifth fully an inch shorter than the third whilst the fifth is a little longer than the second, making quite a differently formed wing from that of *vulgaris*. "First four abruptly cut out on the inner web." Now it is a well known character of Swainson's to have but three incised primaries.

Speaking of primaries, Audubon says, "A greater part of the inner web, with the shaft white * * * * the white of the inner webs of the primaries forms a conspicuous patch, contrasted with the grayish-black of their terminal portion." This is a remarkable feature not noticeable in Swainson's. Audubon's bird had the "lower wing-coverts white barred with dusky." Swainson's has rufous under wing-coverts.

The above are the principal differences, and together with Audubon's fine plate, which is a perfect facsimile of my bird, give a most emphatic contradiction to all assertions that Audubon was unable to distinguish the difference between *Buteo vulgaris* and what to him would have been a new bird. This noted ornithologist was constantly on the lookout for new species with which to embellish his book, and it is extremely improbable that he would have let such an opportunity escape him.

The descriptive points given are enough to separate Audubon's bird from all others, but as if to give more weight to his testimony we find him saying as a final to his article: "When compared with European specimens, mine have the bill somewhat stronger; but in all other respects, including the scutella and scales of the feet and toes, and the structure of the wings and tail, the parts are similar."

It will be noticed that he uses the plural "mine," for before this was appended he had received another, also shot by Dr. Townsend, on the plains of the Snake River.

Swainson and Richardson, in "Fauna Boreali Americana," Vol. II, page 47, also make mention of a species under the name of *Buteo vulgaris*, and give a figure of the same. They were, however, without doubt mistaken in their identification, the bird which they had being really *Buteo Swainsoni*, as both description and figure clearly indicate. Reverting once more to Audubon, I will answer a query which will arise in almost every one's mind, viz:—How was it that Aubudon did not find the common *B. Swainsoni*, and yet have specimens of the rarer *vulgaris* pass through his hands?

First—The country inhabited by this Hawk (Swainson's) was comparatively unknown at that time, and consequently not much traversed by naturalists.

Second—Audubon never noticed some of our most common species, while he discovered and described many rare ones that were closely allied to them. Notably among these was the

Least and Yellow-bellied Flycatchers (*Empidonax minimus et flaviventris*), both of which were unknown to him until pointed out by Prof. S. F. Baird. Accident or perhaps a singular chain of circumstances will often prevent a collector from finding species which are very common. During my first visit to Florida I took nearly every species which was known to exist in the section which I visited, yet never saw a single specimen of the Tufted Titmouse (*Lophophanes bicolor*), which I have since found there in abundance.

Lastly — Is *Buteo vulgaris* very rare in the Northwest? I know that this section has been ransacked by good collectors, yet sometimes birds will escape observation for years, and at last be found common. Such certainly has been the case with Baird's Bunting (*Passerculus Bairdii*); and Sprague's Lark (*Neocorys Spraguei*) In conclusion, then, I may add, that as three specimens of the Common Buzzard have actually been taken within our limits it is extremely probable that it will be found of regular occurrence in the Northwest.

NESTING OF THE GOLDEN-WINGED WARBLER (*HELMINTHOPHAGA CHRYSOPTERA*), IN MASSACHUSETTS.

BY J. WARREN.

Of all our warblers there are few that surpass the Golden-wing in elegance of plumage. Though comparatively common with us during the spring migrations but few appear to remain to breed, and yet our State has been considered about its northern limit on this coast. They arrive in eastern Massachusetts from the second to the third week in May, when they are very active, flitting through the trees and young growth, diligently searching for their food, which consists of insects and their larvæ, occasionally giving vent to a rather loud, peculiar and unmistakable song, which, though not so musical as that of most of the other individuals of this family, is very pleasing. The Golden-wings do not seem to confine themselves wholly to swampy situations, as is usually stated, but are sometimes found on higher ground, quite remote from such places. They pair shortly after arriving, and commence to build from the latter part of May to the first of June. The first authentic nest found

in this section of the country was that collected by Mr. C. J. Maynard, June 12, 1869, and admirably described by him on page 100 of the "Naturalist's Guide." This nest was placed on a slightly elevated tuft of moss, near a swampy thicket, within a short distance of a travelled road, and contained four eggs, and also one of the Cow Bird (*Molothrus pecoris*), which were within a few days of hatching. Since this nest was found there have been no others taken, to my knowledge, until the past year when three were discovered; one each by my friends, E. B. Towne, Jr., and W. W. Eager, who have kindly allowed me to use their notes, and the third by my brother and myself.

We were out collecting on the afternoon of June 8th, 1875, and while passing through a strip of swampy land on the outskirts of a small wood, flushed a bird from under a plant known as "Skunk Cabbage," *(Symplocarpus fœtidus.)*

Upon searching we found the nest concealed by the large leaves of the plant. It was raised about two inches above the wet ground by dead oak and maple leaves which were quite damp. The owner soon came back, and hopping excitedly from branch to branch of an alder thicket a few yards away, almost continually uttered a sharp chirp of alarm, betokening her strong dislike to the intruders; but, strange to say, her mate did not make his appearance, although we could hear him distinctly zee-zee-zeeing, a few rods away. As it was fast growing dark, and feeling satisfied that she had laid her set, we shot her.

The nest, which closely resembles that of the Maryland Yellow-throat *(Geothlypis trichas)*, is composed outwardly of dry oak and maple leaves, interspersed with long stripes of the outer bark of the grape vine; and is lined with fine fibrous shreds of the same of a reddish tint, interwoven with one or two very small pieces of dry grass. The measurements are as follows: height, 2.75 inches; width, 4.25; diameter inside, 2.30; depth inside, 1.60.

The eggs are three in number, two *pure white*; the third sparsely spotted on the larger end, and measured respectively, .69x.53, .68x.51, and .65x.49. One of them was out of the nest, and had three small holes close to each other on the upper side, through which a little of the albumen had leaked out and dried. I cannot with certainty account for this, as I feel quite positive that no other person had ever molested the nest, but think that a squirrel, or other rodent, had eaten one of the eggs, pulled

out another, perforating the shell with his claws, and being attacked by the birds, quitted the nest, leaving the remainder of his spoil behind. Both of the eggs in the nest were slightly incubated, while the one outside was quite fresh.

The following is an extract from Mr. Towne's journal:

"While out collecting, early in the morning of the 29th day of May, 1875, as I was walking up a hillside through small white birches, saw a Golden-winged Warbler within twelve feet of the muzzle of my gun; was about to shoot, when I noticed a small straw or dry blade of grass in her mouth. The thought of finding her nest induced me to watch closely. She soon flew and alighted in the centre of an old cart path. I went to the spot and was delighted on finding in the centre of a small tussock of grass the commencement of a nest. Went to the place the next day and saw the female at work; did not go again for two days when there was one egg. On June 5th I took the nest with four fresh eggs. By creeping up carefully and putting my hand over the nest, succeeded in catching the female. Saw the male soon after, but he was exceedingly shy."

In structure the nest closely resembles mine, but is a little narrower and deeper inside. It measures in height 3.00 inches, width, 3.80, diameter inside, 1.90, depth inside, 2.00. The eggs are white, faintly spotted with red on the larger end, and measure .72x.52, .70x.56, .70x.48, and .68x.58 inches.

Mr. Eager found his nest about one fourth built on the 5th of June, 1875, in rather low, wet woods, within one hundred feet of a travelled road, and it was placed on the ground between some young oak sprouts. June 9th, it contained four eggs. He did not see either of the birds until the 11th, when he shot the female, but did not see the male at all. The nest was well concealed by dry leaves, and was made up outwardly of dry and skeletonized oak leaves, and lined with grape vine bark interwoven with fine yellow grass. Height, 3.00; width, 3.60; diameter inside, 2.10; depth inside, 2.00. The eggs were white, with few light reddish spots on the larger end, and measure, .70x.54, .69x.55, .69x.53, and .69x.55 inches respectively.

These nests were all found in Newton, within a mile of each other.

NOTES ON THE ROUGH-WINGED SWALLOW (*HIRUNDO SERRIPENNIS*), IN PENNSYLVANIA.

BY WALTER VAN FLEET.

I have, during two years of rather careful observation, noticed a constant and decided difference in the breeding and other habits of the Rough-winged Swallow, as compared with the Bank Swallow (*H. riparia*). The main points are as follows:

H. serripennis is not gregarious while nesting, but during the breeding season appears rather to avoid its kind, as well as the Bank Swallows, and to associate only in pairs. Their nesting holes are not placed near each other in the manner of *H. riparia*, but are scattered along the banks of creeks and rivers at irregular intervals, wherever an especially favorable locality occurs. They very seldom excavate a hole for themselves, but generally take up with any suitable cavity, and alter it to suit their taste. It is quite common to find them breeding in deserted Kingfishers' holes, and in this case placing the nest within a foot or eighteen inches from the entrance. They will also, on finding a decayed root of sufficient size, leading in from their favorite sand banks, remove the soft punky wood, following the winding of the root, until they have arrivedat a suitable distance—about two feet—where, after enlarging the cavity, they place their nest. This species is also fond of building in holes in stone bridge piers and other masonry, near water, returning to the same place year after year.

In the few cases which I have observed of their excavating, for themselves, it has been done in a very slovenly manner, and invariably their holes have been much larger than is apparently necessary, and *round* at the entrance, while on the contrary the holes of the *H. riparia* are very symmetrical ellipses, with the longer axis horizontal, and not larger than is needful to permit free ingress and egress of the birds. I have never yet, in this locality, found a Bank Swallow's hole large enough to admit the hand, without enlarging, while the nest of the Rough-wings can generally be reached without any trouble, except when built in masonry. In this case they will pass through a crevice barely large enough to admit their bodies, providing there is a cavity within large enough to contain the nest.

The nests of *H. serripennis* are *generally* much more carelessly built than those of *H. riparia;* they do not seem to go any distance for their materials, but appear to pick up anything suitable which they can find within a few rods of their habitation. The nests of the two species are composed of nearly the same substances, but those of *H. riparia* exhibit a greater variety in the same nests, for, as they build in large colonies, they are obliged to search for materials in different places. On one occasion I remember finding a nest of *H. serripennis* composed entirely of feathers of domestic fowls. It was built in a deserted Kingfisher's hole, in a sand bank, about fifteen rods from a barn-yard, in which fowls were constantly kept. At another time I found three fresh eggs lying on the bare sand; the hole was a mere pocket, barely six inches deep. In this case the female bird was probably under so great a necessity that she did not have time to construct a nest in the usual manner, but had hastily deepened the already formed cavity.

I have quite frequently found fresh eggs in the nests of *H. serripennis*, and those far advanced in incubation; indeed, have found fresh, nearly hatched eggs, and young birds, in the same nest, but I have never noticed anything like this among Bank Swallows, though I have searched carefully.

In general habits the difference is perhaps less marked. The Rough-wings arrive here about the 10th of April, in large numbers, full two weeks before the Bank Swallows, and are found in company with *H. horreorum* and *H. bicolor*, playing around, and chasing insects over the ponds and rivers.

About the first of May the Bank Swallows come; *H. serripennis* then appear to grow scarcer, and to desert the vicinity of ponds and streams where there are no sand banks. During the latter part of June and through July, I have often met pairs of Rough-winged swallows flying steadily in a particular direction, one or another turning out to pursue an occasional insect, but when it was captured returning to its former general course, over meadows, forests and streams until lost to sight. I have thus met pairs at different times, going towards all points of the compass. As they fly quite high at these times I have never succeeded in killing both birds, but think they would prove to be male and female.

About the last of August, both this species, and *H. riparia* begin to migrate southward, associated with the Barn Swal-

lows; when there is no perceptible difference in the habits of either. By the middle of September they have all disappeared.

WATSONTOWN, PA., FEB. 20th, 1876.

ON THE BREEDING OF THE BLACK-THROATED BLUE WARBLER (*DENDRŒCA CÆRULESCENS*) IN CONNECTICUT.

BY C. M. JONES.

As but little is known concerning the nesting of this warbler, a description of two instances which have come under my observation may not be without interest. But perhaps the most interesting fact connected with the discovery of these nests is the occurrence of this species, during the breeding season, so far south of its usual summer habitat. Eastford, where they were found, is in the north-east corner of Connecticut, being eight miles south of the Massachusetts line, and sixteen miles west of the Rhode Island line.

My first discovery of the nest of this bird was on the 8th of June, 1874. While taking a stroll in search of specimens for my cabinet, my attention was arrested by a bird of which I could not determine the species. I tried to get a shot, but it was in the tops of the trees, and kept flitting about so rapidly that I could only keep it in view sufficiently to follow, which I did for, perhaps, seventy-five yards, and then lost sight of it entirely. But just then I discovered a nest of the Wood Thrush (*Turdus mustilinus*), proceeded to appropriate the eggs, and had scarcely finished packing them, when I again discovered the bird, of which I had been in pursuit, in a bush not more than a dozen yards off, and from her restless manner I was convinced that it had a nest very near. I accordingly retired a short distance, and sat down to await further developments. Presently it flew near the Thrush's nest, and after waiting a few moments, dropped into a low bush and disappeared. Allowing it sufficient time to get settled, I carefully approached the spot, and, looking under the low bushes, discovered it sitting on a nest, not more than two feet from where I stood while taking the Thrush's eggs. The bird let me approach within a yard before starting, and then, hop-

ping suddenly to the ground, it flew to a bush five or six yards off, uttering a few low chirps, endeavoring apparently to conceal itself. Not being able to identify the species I was obliged to shoot, and it proved to be a female *Dendræca cærulescens*.

The nest was located in deep woods, near the base of a hill, which sloped down to a swampy run. It was built in a small laurel, *(Kalmia latifolia)*, a fourth of an inch in diameter at the base. About five inches from the ground the bush separated into three branches, and in this triple fork the nest was situated. It has a firm and compact appearance. External diameter, about three inches; internal, one and three-fourths inches; external depth, two and three-fourths inches; internal, one and three-fourths inches. Top of nest, seven and one-half inches high from the ground. It is composed outwardly of what appears to be the dry bark of the grape vine, with a few twigs and roots. This is covered in many places with a reddish, woolly substance, apparently the outer covering of some species of cocoon. The inside is composed of small black roots and hair. The nest contained four fresh eggs, of which the following is a description:—

No. 1, ashy-white, with a ring of brown and lilac spots and blotches around the larger end, and a few minute spots of the same scattered over the entire surface. Precisely at the centre of the large end is a small spot of deep umber: dimensions, .61 by .47. No. 2, white, with a slight tinge of green; the larger end covered with blotches and spots like No. 1; one side, near the small end, shaded with the same, where there are also a few small spots of dark umber: dimensions, .61 by .47. No. 3, ground color like No. 2; the larger end covered with blotches of light brown and pale lilac; a spot of dark umber near the small end—dimensions, .64 by .50. No. 4, ashy-white, the larger end surrounded and nearly covered with spots of brown, with minute spots of the same scattered over the entire surface —dimensions, .66 by .50.

The second nest I discovered on the 13th of the same month. It was about eighty rods distant from the first, on level ground, and near a piece of swampy land. The spot was somewhat shaded by hemlocks; the principal part of the forest trees being oak and chestnut.

While examining a nest of *Vireo olivaceus*, I heard a faint chirp slowly repeated, and, looking around, soon discovered in

one of the hemlocks a bird which I felt sure was of the same species taken a few days before. From her manner I felt she had a nest not far distant, and remembering how closely the other allowed me to approach before leaving her eggs, I concluded that I must have passed very near the nest of this bird; therefore retracing my steps, and looking carefully among the bushes I soon discovered the object of my search. Desiring that there should be no mistake about the species, I at once went home, and, taking my gun, returned to the place. Approaching cautiously I discovered her on the nest. She permitted me to approach very near, and then, like the other, dropped suddenly from the nest, and flew into the same hemlock in which I first found her. After securing my bird I took the eggs, but to my regret found that incubation had proceeded so far that it was impossible to save them. These—four in number—were of a darker shade than the first set, but this was evidently the result of incubation. They were also more spotted, and the spots spread more generally over the entire surface than in the other set. The nest was not so near the ground as the first, the top being eleven and one half inches from it. It was placed in a laurel, or more strictly speaking, in two laurels. One of these lay horizontally in the fork of the other, and on the horizontal one the nest was set, held in place by being attached on one side to the upright branches of the other. It is constructed of the same materials as the first, excepting the woolly substance on the outside, of which there are only two small pieces. External diameter, three and one half inches; internal, one and seven-eighths inches; external depth, two inches; internal, one and three-eighths inches.

As will be seen, by comparison, the nest is much more flat than the first, the result, undoubtedly, of its different situation on a horizontal branch, while the other being in a narrow triple fork, was necessarily narrower and deeper. Placed side by side the two nests bear very little resemblance, and would hardly be suspected of belonging to the same species.

ON TWO EMPIDONACES, TRAILLII AND ACADICUS.

BY H. W. HENSHAW.

Perhaps no one group of North American birds has given rise to more confusion, and perplexing errors of identification than our small Flycatchers. More from this reason than from any other cause, our knowledge of the exact range of several of them is still far from being as complete as would be desirable. With a few words on this subject I shall pass to the main object of this paper, which was to call attention to certain differences, between the nests of the two species mentioned above, which it seems to me have never been sufficiently emphasized in the distinction of the two birds, though by no means unknown before.

In New England, if the Acadian Flycatcher be found at all, it is in the character of a very rare visitant, and I am inclined to believe that all of the various quotations assigning this bird to a place in the New England fauna may be set down as instances of mistaken identification, not excepting the evidence of Mr. J. A. Allen, who states that *E acadicus* is a rare summer visitant near Springfield, Mass. I am inclined to think that Mr. Allen's *acadicus*, were really *Traillii*, more especially since, in recounting the habits, he says, "it breeds in swamps and thickets, which are its exclusive haunts." This accords perfectly with the habits of *E. traillii*, and is utterly at variance with those of *acadicus*, as elsewhere shown.*

As at present made out the Acadian Flycatcher reaches no further north along the coast than New Jersey. Nor in the interior does its range appear to extend much if any higher. Going west we find it occurs in about the same latitude in Pennsylvania, in Ohio, where it is numerous about Columbus, (Dr. J. M. Wheaton.) and in southern Illinois, as shown by Messrs. Ridgway and Nelson; while the Mississippi may be looked upon as marking about its western limit.

We find, however, one quotation from further west, that of Mr. Allen of eastern Kansas. In its distribution the Traill's Flycatcher is decidedly more northern, though the southern line

*Since penning the above I understand that Mr. Allen allows this view to be correct.

of its summer habitat is found to be somewhat that of its congener. Such is the case in Pennsylvania, in Ohio and Illinois.

Limited to about Kansas in its extension westward, Traill's Flycatcher then fades into the closely allied form, known as var. *pusillus*, which seems to inhabit the western country at large, without much regard to the climatic condition which it finds.—In addition to many intermediate quotations we find it from Washington Territory (Cooper,) to New Mexico and Arizona where I have found it almost to the Mexican line, and also in southern California.

In this wide range of country the Traill's Flycatcher appears to have changed its habits very little. It is everywhere a bird of the swamps and lowlands, being especially partial to the running streams, whose banks are well clothed with willow, disposed in dense thickets. This is as true of the var. *pusillus* in the west as of *Trailili* in the east, and there is seen also in the architecture of the nests of the two a similarity which is quite remarkable, when is taken into consideration the wide extent of country occupied by the two varieties. Slight variations aside, which are chiefly the result of a difference in the materials used, the selection of which always largely depends upon fortuitous circumstances, there is almost no difference.

As typical then of either variety, I shall briefly describe a nest of *Traillii*, one of a series of five, kindly presented by Dr. Wheaton, and taken near Columbus, Ohio.

It may be fairly compared with the usual structure of the Summer Yellow Warbler *(Dendræca æstiva)*, so well known to every one, but lacks something of the compactness and neatness shown by this species in its method of weaving together the materials that make up its home. Hempen fibres compose the exterior, or the hulk of the nest, while internally it is lined in true Flycatcher style with fine grasses, and a slight admixture of down from thistles; the main point of all, however, is its position with regard to the branches. It is built into an *upright* fork, the small twigs that surround it being made available to secure it more firmly in its place by being encircled with the stringy fibres. In this particular of position correspond all of the nests of this bird I have seen, as well as those of *pusillus* in the west.

Taking now a nest of *E. acadicus*, and placing it beside the others, a very striking difference is at once seen. Instead of comparing it with the structures of any of the Warblers, or with

those of the above species, we are at once reminded of the Vireos, though no one familiar with the elegant basket-like structure of these weavers would think of mistaking this for one of their masterpieces. The resemblance is but a superficial one, beginning and ending with the manner the nest is disposed in a *horizontal* fork.

It is a slight structure made of fine grasses, interspersed more or less with the blossoms of trees, the whole disposed in a circular form, and fitted between two twigs; a firm support is derived from a binding of spiders' webs, which are interwoven with the sides of the nest, and then carried over the twigs on either side, encircling them with strong bands. The entire base of the nest is without support, and so thin is the slight structure that the eggs might almost be seen from below. This nest was built in a small tree, perhaps twenty feet from the ground. In this respect the two species vary but little, both preferring to select the lower branches of tree or shrub as the site of their domicile, and only rarely departing from the rule. This last nest was taken near Washington, by Mr. P. L. Jouy, who kindly placed it at my disposal. The contrast between these two structures could indeed scarcely be greater, and those selected for description may, I think, be taken as fair samples of the styles of nest architecture that obtain with the two species, at least all of a considerable number I have seen, from several localities, correspond with the foregoing.

A word as to the eggs. After examination of several sets of either species, of which the identity was unquestionable, I am certain that no decided differences of coloration exist between them; none at least that are constant and that can be made of use in the exact discrimination of the two. Dr. T. M. Brewer, in speaking of the eggs of *E. traillii*, describes them as possessing a "white ground color with a distinct roseate tinge," and marked with large and well defined blotches of purplish brown, while in his description of *acadicus*, he says in distinction, the eggs resemble more those of the *Contopi*, and are "of a rich cream color with reddish-brown shading, marked at larger end with scattered and vivid blotches of red and reddish-brown." The truth is, however, that the shade of the ground color of either species is extremely variable, not being alike in any two sets I have examined. The eggs of Traill's Flycatcher are frequently

found to be of a very decided cream color, approaching buff, while those of the Acadian, if anything, are more buffy, but will now and then be found to be fully as pale as some of the Traill's. The markings, too, are subject to considerable variation as to precise shade, number and size.

On this point Dr. Wheaton remarks, that while he can discover no specific difference in the eggs of the two birds, he is of the opinion, that the eggs of *acadicus* average a little longer and slenderer than those of *Traillii*, and have perhaps a *yellower* buff tinge.

With reference to the habits of these two species, Dr. Wheaton has always observed a very decided difference, especially in the localities chosen as homes, and considers "the locality as characteristic of the species as any of its other points." He has always found Traill's Flycatcher a lover of the low grounds, and especially fond of the willow clumps along running streams, while of the Acadian he says: "It is never found in company with, or in such localities as are frequented by the Traill's. In all cases it is found in upland woodland, preferably, and I might almost say as far as my observation extends in beech woodland. I have never seen it even during the migration in other places."

ON THE OCCURRENCE OF CERTAIN BIRDS IN THE NEW ENGLAND STATES.

BY WM. BREWSTER.

It must be admitted that the knowledge which we possess of the geographical range of even the commonest of our North American birds is at present but imperfect.

Important and interesting as this branch of ornithological lore may be regarded and receiving, as it has of late, considerable attention, it yet admits of much closer study. Local lists have proved of great value as offering readily available exponents of desultory field work, and it is to them that we must often turn for our most valuable notices of rare species. The component species of these lists are classed under two heads—those which more or less regularly occur in the district treated —and others, extralimital by right, but which driven before

storms or wandering aimlessly, are finally captured in a region so remote from the usual range that the chances are a thousand to one against another individual of the same species ever finding its way thither again. Occurrences of the latter class are certainly not devoid of interest, but their value to the intelligent student of ornithology can bear no relation to that of the discovery of a species, which of regular, perhaps almost common occurrence, has entirely eluded the search of former collectors. Thus the capture of the Varied Thrush in Massachusetts must be regarded purely in the light of an accident—an accident, moreover, which proves nothing beyond the bad taste of the bird in straying to a region so remote and so overrun by collectors of its race; while the establishment of a fixed fact like that recently developed, of the regular seasonal appearance in considerable numbers of *Passerculus princeps* along our New England coast, cannot fail to prove of the utmost practical value to the ornithologist, and reflectant of great and lasting credit on the fortunate discoverer.

In the present state of our available knowledge, however, classifying any newly acquired feathered citizen under either of the above heads, can scarcely fail to prove a somewhat dangerous and arbitrary committal. Truly, in ornithology, "we know not what the morrow will bring forth;" perhaps it will be our "accidental visitor" in multitudes; or the bird which we shot yesterday, for the first time, may never be heard from again.—Manifestly the only thing that can be safely done is to "make a note of it," and calmly await future developments. Sage prophecy has, however, such temporary charms, that the best of us fail to keep altogether clear of it at times, and it may not be gainsaid that it has its value—a value, however, that bears always a most close relation to the reliability to its author. It possesses in addition a no small element of luck, and is in some sort a kind of ornithological gambling, where the fate or fortunes of the participator are decided by the dice-throw of future discovery.

Of the following five species, two are recorded for the first time in New England; two are new to the State of Maine, and the last has never been previously taken in Massachusetts. Although the temptation to theorize a little on the occurrence of some of them is great, it will be at least more consistent to act in accordance with the philosophy just advanced and simply give the facts, leaving the commentary to future times and wiser heads:

Junco Oregonus, (Towns.), Sel. Female, shot in Watertown, Mass., March 25th, 1874. This specimen is quite typical, and its identity has been confirmed by my friend, Mr. H. W. Henshaw, who has recently examined it.

Corvus ossifragus, Wils. On the morning of March 16th, 1875, I saw a bird of this species flying swiftly over our place in Cambridge. It was pursued by at least twenty-five or thirty of our common species, *(Corvus Americanus)*, and at each renewnal of their attacks gave utterance to its peculiar and unmistakable notes. Having thoroughly familiarized myself with its voice and motions in the South, where it is abundant, I feel confidant that I could not in this instance have made any mistake. The very fact of its having drawn the angry attention of so many common crows, at a season too when their gregarious habits are given up for more social relations, proves that it was to them an object of novelty and one deemed worthy of suspicion and hatred, I am not aware that any such feeling is maintained when the two species come together in numbers; but however this may be matters little, as our bird habitnally treats all suspicious strangers in a like manner, and the collector is not seldom indebted for a rare hawk or owl to the watchful eye and clamorous alarum of this sable sentinel.

Vireo Philadelphicus, Cass. On Sept. 7th, 1875, I shot a female of this beautiful little species in Cambridge, Mass. It was feeding in company with several individuals of *Vireo olivaceus*, in a low willow tree.

Tringa Bairdii, Coues. I secured a fine male of this species at Upton, Oxford County, Maine, Sept. 1, 1875. When first observed it was sitting alone on a mud flat at the foot of Lake Umbagog.

Philomachus pugnax Gr. Female. Killed at Upton, Oxford County, Maine, September 8th, 1874. It was shot while flying on the marshes at the mouth of Cambridge River. My attention was attracted to it by its peculiar hawk-like flight, which, provided it be a constant attendant of its motions, should at once distinguish it while on wing from any other *Tringæ*. I am aware that this species has already been given in Mr. G. A. Boardman's "List of the Birds of Calais, Me.," but Dr. Brewer informs me that none of the specimens therein referred to were taken within Maine limits. The only authentic N. E.

quotation that I can at present recollect is the record of a Mass. specimen in "Am. Nat.," vol. vi, p. 306. The occurrence of the present individual so far inland is worthy of remark.

ALBINISM AND MELANISM AMONG NORTH AMERICAN BIRDS.

BY RUTHVEN DEANE.

What a striking contrast it is as we examine a collection of Birds, to see one of our familiar friends standing out in bold relief among others of its own species clad in a spotless suit, or perhaps wearing a most variegated coloration of plumage, a white head, a white wing, or a few white tail feathers, while the rest of the bird retains its normal plumage.

This "freak of nature" is of more frequent occurrence than is generally supposed, yet notwithstanding how difficult it is for an individual to get together any number of specimens.

I presume there is scarcely a collection of any size in the country that has not one or more specimens represented, and yet many of our most experienced collectors, who have shot thousands of birds, are yet to have the luck (for sheer luck we must call it) to add a specimen to their cabinet taken with their own gun, and one must generally be content with but few examples.

During the past few years I have been fortunate enough to add about a dozen specimens to my collection, though have only taken an individual myself. As I have just remarked we may shoot a whole season in various parts of the country, and travel many miles without happening upon a single specimen, yet scarcely a week passes that we do not see in some of our daily papers that so and so recently shot a white Robin, or a white English Sparrow was seen in one of our public parks, or a white Blackbird is making a sensation in a certain locality, and it must be generally acknowledged that the casual observer is more fortunate than one who is constantly in the woods and fields.

Pure albinism is of rare occurrence, the majority of specimens retaining more or less of their normal dress. Of course this disease is liable to occur in any birds, though more frequently

in some families than others, and I can now recall some fifty or sixty different species in which it is represented.

Among the *Turdidæ*, the Robin *(T. migratorius)*, is the only species I have seen in the albino state, and in my experience is the most common example among our birds, though we rarely hear of pure white specimens, and out of some twenty I have seen, there were not any two that resembled each other.

Among the *Saxicolidæ*, I have seen the Bluebird *(S. sialia)* represented, the specimen being of a light yellowish cast, though traces of its normal plumage could readily be discerned.

Representatives among the *Sylvicolidæ*, I have seen in limited numbers for so large a family, the examples being *P. Americana*, a beautifully marked specimen among the collection of the Smithsonian Institution. *D. castanea*, a small portion of the forehead being white, and extending over half of the upper mandible. D. *coronata* has been taken in partial state, and *S. ruticilla*. This later species I shot some years ago, and it presents a curious mixture of coloration. The black head and breast is mottled with white, the black dorsum is replaced by bright orange, with a few blackish feathers intermixed, while the belly and crissum are much more strongly marked with orange than in a typical specimen. I was attracted at some distance by this peculiar plumage, and like all abnormal birds it was unusually shy.

Albinism among the *Hirundinidæ* is generally pure white or of a strong yellowish cast, and I cannot recall of having seen or heard of a specimen in only a partial state. I have seen specimens of *H. horreorum*, *T. bicolor*, *C. riparia*, *P. lunifrons*, and *P. purpurea*, in this white dress. *Ampelis cedrorum* has been taken in some striking stages of plumage, the crest, wax appendages on the wings, and the yellow tips of the tail feathers retaining color, while the rest of the body bore a bleached out appearance.

Doubtless the *Fringillidæ* are represented more largely than any family, though but eleven species have come under my notice, *Passer domesticus* being the only one pure white. A specimen of *A. linaria* was recently captured, whose plumage was white, with the exception of the crimson patch on the crown. The other examples are *P. gramineus*, *M. melodia*, *J. Oregonus*, *S. monticola*, *S. socialis*, *S. pusilla*, *Z. albicollis*, and *P. illiaca*—all these presenting a mottled plumage. In a specimen of *Z. albicollis*, kindly presented to me by Mr. N. C. Brown, of Portland,

Maine, the head is pure white, with the exception of the yellow superciliary stripe which remains and causes a marked contrast.

The most interesting and striking cases of albinism are those among the *Icteridæ* and *Corvidæ*, and how many times have I astonished disinterested persons by referring to a white Blackbird or a white Crow, and to such persons it must indeed seem very absurd to prefix "white" before Blackbird, and also before Crow, for how common the comparison is, "as black as a Crow," but as previously remarked, this family are as likely to be represented as any others. Several examples of *S. magna* have been noted. *D. oryzivorus* has been taken in this plumage, as has also *M. pecoris*, *A. phœniceus*, *X. icterocephalus*, *Q. purpureus*, and *C. cristatus*. This last was a beautiful specimen of a peculiar character of albinism, the bright plumage being modified as though a white veil had been thrown over it, yet all the natural markings of the birds could be plainly seen.

I am induced to think that among the *Tyrannidæ* but few examples have been detected, as *T. Carolinensis* is the only example I have ever heard of. This specimen was in the collection of Mr. James Booth at Niagara Falls. The bird has a stained or creamy plumage, but the most interesting point is that the flame-colored patch on the crown remains; a case similar to *A. linaria*. *C. auratus* is the only example among the *Picidæ* that has come under my notice. I have an extremely light colored specimen of *S. varius*, which I collected at the Umbagog Lakes, but am inclined to think that this was caused by old age.

Among the *Strigidæ* a fine specimen of *S. nebulosum* is in the natural history museum at Niagara Falls. The only one among the *Falconidæ*, on my list, is that of *B. borealis*, a magnificent example, pure white, taken on the Hoboken marshes, N. J. Among the *Columbidæ*, *E. migratorius* is noted. Frequent occurrences among the *Tetraonidæ* are illustrated in *C. cupido*, *B. umbellus*, and *O. Virginianus*, though occasional examples are found in *O. pictus* and *L. Californicus*. A beautiful specimen of *B. umbellus* was recently taken in West Bridgewater, Mass., its plumage being white as the driven snow.

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

An albino, *C. fulvus* var. *virginicus*, was shot on Cape Cod, in September, 1875. This is the only instance which has come to my knowledge of albinism occurring in any of our Plovers or

Sandpipers, and as these species are shot in such immense numbers during the migrations is it not a little strange that we do not hear of more examples, as such curiosities are always preserved, even by the market gunner. *P. minor* and *G. Wilsoni* have been shot in white plumage, and thus our four game-birds have been added to the list.

P. Carolina, in albinistic plumage is among the collection in the Boston Museum. Examples of others of this family I have not noted. I have seen nine species representing albinism among the *Anatidæ*. A partial want of coloration in *B. bernicla* is an interesting specimen; *A. boschas*, *Q. discors*, *H. glacialis*, *F. affinis* and *F. vallisneria*, bore more traces of albinism than of their normal plumage, while specimens of *B. clangula*, *A. albeola*, and *O. fusca*, were pure white, this latter presenting almost as great a contrast as in the case of the Crow. The *Procellariidæ* are represented by one species, *F. giganteus*, which is in the collection of the Philadelphia Academy.

One of the finest and most attractive examples is among the *Colymbidæ*, a snow-white specimen of *C. septentrionalis*, which was shot in Salem Harbor, Mass., and is now in my possession. A similar curiosity is at the Smithsonian Institution. An albino *L. troile* is in the Museum collection at Toronto, Canada. *U. grylle* and *M. alle* have also been recorded.

Many questions would naturally arise as to the cause of this abnormal state in which so many of our birds are found, though I believe it is generally understood to be a lack of the coloring matter deposited in the cells of the feathers. It is certainly not influenced by any climatic changes or geographical distribution, as specimens are taken throughout the country, and not more or less abundant in any locality; nor is it caused by old age, for we have heard of broods of young Quail in albinistic state accompanied by white parents; and another interesting example, is that of a young Robin, milk-white, still unable to leave the nest. This specimen was taken at Saybrook, Conn., by Mr. H. A. Purdie, who informs me that the parent birds were in normal dress.

Whether any specimens hatched in this stage have been detected to attain any of their regular plumage after the moult, I am unable to say, though should think it very doubtful. I have heard an instance of a white Robin building its nest for several successive years on the same spot in an old wood-shed. This

was unquestionably the same bird, and its plumage remained unaltered.

Another point still more curious is: Why are some families of birds effected, as a rule, more than others? Cases among the *Fringillidæ*, *Tetraonidæ*, and *Anatidæ*, are of comparatively frequent occurrence, while among such large families as the *Sylvicolidae*, *Tyrannidae*, and *Scolopacidae*, we hear of but occasional examples. I will not express an opinion as to the truth of this problem, but leave it for more experienced heads to ponder over.

Another abnormal state (Melanism), in which our birds have been found, is of exceedingly rare occurrence, and but five species have been recorded on my list:—*Turdus migratorius*, *Colaptes auratus*, *Melanerpes erythrocephalus*, *Ortyx Virginianus*, and *Uria grylle*.

Doubtless many other examples of albinism, and perhaps a few cases of melanism may be added to this list.

NOTES ON BIRDS FOUND BREEDING ON COBB'S ISLAND, VA. BETWEEN MAY 25TH AND MAY 29TH. 1875.

BY H. B. BAILEY.

During so short a visit to any place the birds noticed must necessarily be only a small proportion of those actually occurring. The following observations relate principally to those breeding on the above named and two adjacent islands. Cobb's Island is situated off Cape Charles, Virginia, and is about seven miles long by half a mile wide and being little more than a sand bar, is well adapted as a breeding resort for the various species of Terns and Waders found there. The coast side of the island is a magnificent beach which gradually rises up to an elevation of about fifteen feet from sea level in the centre, on which there is a rank growth of grass, while on the other side a long marsh extends in some places as far as half or three quarters of a mile from the main island at low water, but is nearly overflowed at high tide. In addition to the species enumerated below there were large numbers of shore birds migrating north, and several sportsmen were enjoying such shooting as we never get on the

New England coast, and doubtless nearly all the species of Sandpipers, Plovers, Godwits, and Curlew, occur here both during the spring and autumn migrations. In the fall and winter the sea-fowl shooting is such as one would expect, and to judge from the sportsmen's stories this is a perfect paradise for kindred spirits. I must add my complaint to that of others against the wholesale robbery of the eggs of nearly all species nesting here. Numbers of eggers lay off the island and make the rounds daily until procuring a cargo they leave to be followed by others. The birds are robbed so often that they must eventually leave for other breeding localities. Ovaries of many specimens examined by me were sadly depleted.

Dendræca discolor, Bd. Prairie Warbler. A male was heard singing in a swamp on Hog Island, and reminded me forcibly of our own New England collecting.

Hirundo horreorum, Bart. Barn Swallow. Several pairs were breeding in the out-buildings connected with the settlement on Cobb's Island.

Ammodromus maritimus, Sw. Seaside Finch. Although not common it was the most abundant land bird on the island, probably twenty pairs breeding there. I succeeded in finding three nests, two of which contained four eggs each, and one three, all fresh. They were placed in clumps of grass, on the high ridge, in the centre of the island, very carefully concealed, and quite neatly built of grasses, lined with fine pieces of the same; one of them was also arched over.

Agelæus phœniceus, Vieill. Red-winged Blackbird. One pair raised a brood in a grape-vine arbor near the house and picked up crumbs from the piazza, reminding one of our common "Chippy" in sociability.

Corvus Americanus, Aud. Common Crow. Several were seen and heard on Hog Island, sometimes in company with the Fish Crow.

Corvus ossifragus, Wilson. Fish Crow. This species is quite common on Hog and Mockhorn Islands, and I was fortunate enough to obtain a set of five eggs, nearly fresh. These are very much smaller than those of our common species, there being as much difference in size as there is between those of the Raven and the Common Crow. The nest cannot be distinguished from that of the latter, and was about twenty-five feet from the ground, in a large pine, in which was also a nest of the Fish Hawk. The birds kept up a continual croaking while we were disturbing their treasures.

Tyrannus Carolinensis, Temm. King Bird. Several pairs had young nearly full grown.

Pandion haliactus, Cuv. Fish Hawk. About fifty pairs were breeding on Hog Island, which is about ten miles from Cobb's, and is a very favorable locality, as it is covered with a dense growth of pines which have, however, been killed off at one end of the island by the sand being blown up year after year, and in these dead trees are the Fish Hawks nests, some fifteen feet from the ground, and some less. Two were found placed on the ground, although it was evident they were once in a tree, above ground, thus showing the reluctance this species has of leaving its chosen site. Some few pair had nests in live trees in the centre of the island, which were unattainable by me. The nests are very large, some of them would fill a tip-cart, and the birds seem to add to them year after year; those on the ground being evidently the oldest, and these were fully six feet across. The eggs were all nearly hatched, and in only one case did I find young, but they are usually laid by the 15th of April. Several pairs were also found on Mockhorn Island, in the Heronry.

Ægialitis wilsonius, Cass. Wilson's Plover. "Stuttering Bird" of the inhabitants. This is comparatively a rare bird on the island, only about a dozen pairs breeding, and their eggs are very hard to find, being laid on the dry sand above high water mark, in a slight depression, among shells, and usually in the localities chosen by the Least Terns, and were in all cases three in number. The birds were very shy and seldom seen about their nests.

Hæmatopus palliatus, Temm. Oyster Catcher. "Rain Crow." This species was formerly quite common during the breeding season, but it has been driven away until now there are not more than half a dozen pairs on the whole island, and these were distributed over its entire length. Their nests were more than half a mile apart, and all of them had been robbed by the eggers excepting two, both of which contained three eggs, and I believe this to be their full complement. The nests are slight hollows in the dry sand, lined with small bits of shells, and are quite easily found. The eggs are much sought for by the inhabitants, owing to their size and delicious flavor, which latter quality I cannot testify to, as none were eaten while I was there; the few obtained found their way into my collection. The birds are never seen in the vicinity of the nests during the heat of the day, and are very shy at all times.

Totanus semipalmatus, Temm. Willet. Breeds in large numbers on the island, and are not molested while nesting, as they are left for the fall shooting, and this is the only species that can enjoy the privilege of breeding in peace, the eggs of all the others are subjected to all the mysteries of the cuisine. Their usual nesting place is on the higher parts of the island, among the grass, where they conceal their nests so effectually that it is only by flushing the female directly from the eggs that the nests can be discovered. In this situation

they are very slight structures, being depressions in clumps of grass, lined with finer grasses. The marshes are also favorite localities for breeding, and in this case the nests are more elaborate, being built up from the ground, which is wet at high tide. The eggs were in all cases four, very slightly incubated.

Ardea herodias, Linn. Great Blue Heron. There were two Heronries on Mockhorn Island, one of which contained some fifty nests; as they were in a swamp I did not attempt to reach them, but presume they had young. The other breeding place was on a neck of land that ran out from the main island, and here the nests were all made in low, dead trees, and were immense affairs. Almost all contained three or four young, nearly grown; some few contained fresh eggs, and others had them with large embryos. Whether these were second layings or not I am unable to say, but they undoubtedly were, as these birds are seldom disturbed.

Ardea candidissima, Gm. Little White Egret. One bird was seen and a few may still breed in the Heronry, but it is exceedingly rare now where it was common a few years since, which may be accounted for by their being continually shot for the sake of their feathers.

Ardea virescens, Linn. Green Heron. Several pairs were breeding, and all had fresh eggs, which were five in number, and most zealously watched by their parents.

Rallus longirostris Bodd. Clapper Rail. Very common, and breeds in immense numbers all through the marshes and high grass on the main land. Although seldom seen the number of nests found testify to their abundance, These are carefully concealed, but are betrayed by a habit the bird has of bending the surrounding grass over the nest, thus forming a complete cone which can be seen at a considerable distance. These usually contained eight or ten eggs, but one that I found had fourteen, while others found nests with over twenty, but it is possible that these were the products of two females. Although immense numbers were being brought in every day by the eggers, nearly all of the nests found by me contained eggs nearly hatched, and I think by the first of May their full complement must be laid.

Larus atricilla, Linn. Laughing Gull. This species is the most abundant on the island and breeds in large colonies on every suitable marsh. When one of their breeding places is approached the noise is perfectly deafening and their eggs can be picked up by the bushel. Never more than three in a nest were found but the birds are so frequently disturbed by eggers that it is doubtful if they ever succeed in raising a full brood. Residents inform me that as late as August fresh eggs may be taken.

Sterna anglica, Mont. Marsh Tern. A few pairs were seen, but they had not commenced to breed during my visit; they nest here sparingly, however, as I had a set of their eggs sent me which were laid the last of June.

Sterna regia, Gamb. Royal Tern. Called "Gannets" by the natives. They have always been found breeding on a small sand-bar off the island, but it was washed away during the winter of '74-5, and although the birds were flying around they had not chosen any spot on which to breed, but they undoubtedly did later.

Sterna hirundo, Auct. Common Tern. "Big Strikers" of the islanders. Very common; their principal breeding grounds are on the marshes, where the drifts deposited by the early spring tides are thickly covered with their nests. These are merely formed of dried reeds, lined with finer pieces of the same. A few pairs ars also found in the colonies of Least Terns, in which case they make no nest, but deposit their eggs in a slight depression in the sand. These are always three, and were all fresh, having been robbed by the eggers from the time of their laying about the middle of May. The Roseate Tern (*Sterna Dougalli*), doubtless breeds here also, but I was unable to detect it.

Sterna superciliaris, var. *antillarum*, Coues. Least Tern. "Little Striker." Colonies of about fifty pairs each of this species extend the whole length of the island at about a distance of one mile apart. The eggs were just laid and were all nearly fresh; two being the usual number in a nest, and in no case did I find over three. These were laid in a depression in the sand among broken shells and are very difficult to find owing to their similarity to the surroundings.

Rhynchops nigra, Linn. Black Skimmer. Called "Sea Crow." The birds were in flocks of twenty or thirty, during my stay, as they do not breed until the last of June. I had several sets of the eggs sent me and the sender states that they breed in colonies on the sand and always lay three in a nest.

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB.

Vol. I. JULY, 1876. No. 2.

THE NUTTALL ORNITHOLOGICAL CLUB.*

In the autumn of 1871 two young ornithologists of Cambridge formed the plan of meeting weekly to "read Audubon," and to compare views and notes respecting various ornithological questions in which all were interested. After a few weeks they were joined by other "kindred spirits," who continued to meet each week for the comparison of notes and for study. For the first two years the meetings were wholly informal. In 1873 an organization was effected, under the name of the "NUTTALL ORNITHOLOGICAL CLUB." This name was selected as being a very proper one, from the fact that the "local habitation" of the Club was amid the scenes made classic by Nuttall, whose home for many years was here, and whose "Manual of the Ornithology of the United States and of Canada" abounds in allusions to localities within the precincts of Cambridge. A Constitution and By-Laws were drawn up and adopted, under which officers were duly chosen. The membership of the Club soon embraced all the younger ornithologists of the vicinity, several of whom had already gathered collections numbering hundreds, and in some cases thousands, of specimens each, and who were from time to time acquiring facts of no little scientific value.

* The subjoined historical sketch of the NUTTALL ORNITHOLOGICAL CLUB has been prepared for the purpose of answering some very natural questions that may arise in the minds of the readers of its BULLETIN, namely, What is the Nuttall Ornithological Club? what has it done? and what are its aims? — EDS.

The following year (1874) the project of publishing a Bulletin was agitated, but it was finally thought that the time for such an undertaking had not yet arrived. The *American Sportsman* was then adopted as a temporary medium of publication, and during the following year quite a number of the more important communications read before the Club were published in its columns.* At the same time

* As a matter of permanent record of the work of the Club prior to the inception of the Bulletin, the following list of the principal articles read before the Club, and published in the *American Sportsman* and elsewhere, is here appended.

1. A New Species of North American Warbler (*Helminthophaga leucobronchialis*). By Wm. Brewster. Amer. Sports., Vol. V, p. 33, Oct. 17, 1874. [The first description of the species. See also Bull. Nutt. Orn. Club, Vol. I. No. 1, pp. 1, 2, and Plate I.]

2. A New Species of Finch (*Ammodromus melanoleucus*) from Florida. By C. J. Maynard. Amer. Sports., Vol. V, p. 248, Jan. 16, 1875. [Collected in the marshes of Salt Lake, Florida, by Mr. C. J. Maynard. This is the form of *Ammodromus* previously (Bull. Essex Inst., V, p. 198, Dec., 1873) described by Mr. R. Ridgway as *A. maritimus* var. *nigrescens*.]

3. A New Bird (*Sterna regia*) to Massachusetts. By William Brewster. Amer. Sports., Vol. V, p. 249, Jan. 16, 1875. [The record of the capture of two specimens, ♂ and ♀, at Nantucket Island, July 1, 1874, by Messrs. C. J. Maynard and Wm. Brewster. The female bore marks of having just laid. Both specimens were in somewhat peculiar plumage.]

4. Some Notes on a New Species of North American Tern. By Wm. Brewster. Amer. Sports., Vol. V, p. 249, Jan. 16, 1875. [Notice of a specimen of *Sterna portlandica*, Ridgway, collected on Muskeget Island, Mass., July 1, 1870.]

5. The Loggerhead Shrike in Massachusetts. By C. J. Maynard. Amer. Sports., Vol. V, p. 313, Feb. 13, 1875. [Record of the capture of a specimen of *Collurio ludovicianus* at Newtonville, Mass.]

6. Occurrence of the Fork-tailed Gull (*Xema sabinei*) in Massachusetts. By Wm. Brewster. Amer. Sports., Vol. V, p. 370. [Record of a specimen (the first taken in New England and the third taken in the United States) captured in Boston Harbor, Sept. 27, 1874.]

7. The Nidification of the Blue Crow (*Gymnokitta cyanocephala*) and of the Gray-headed Snowbird (*Junco caniceps*). By Charles E. Aiken (Cor. Memb.). Amer. Sports., Vol. V, p. 370, March 13, 1875. [First description of the nests and eggs of these two species.]

8. Occurrence of the Mocking-Bird in Massachusetts. By E. C. Greenwood. Amer. Sports., Vol. V, p. 370, March 13, 1875. [Record of the capture of specimens of *Mimus polyglottus* in Newtonville, with a notice, by Mr. Ruthven Deane, of others taken elsewhere in Eastern Massachusetts.]

9. Habits of the Mourning Warbler. By Wm. Brewster. Rod and Gun

the roll of membership was increased by the election, as "Corresponding Members," of many of the younger ornithologists residing in other parts of the United States.

During the winter of 1875 and 1876 the interest in the Club seemed to have somewhat abated, doubtless in great part owing to the removal of several of its more active members to distant parts of the country, the regular attendance at the meetings becoming mainly limited to the few original founders of the Club. In March, 1876, it was decided to make an effort to increase the resident membership, and to endeavor to awaken anew the interest of all the members, both resident and corresponding. Hence the matter of publishing a Bulletin was again seriously considered. The question being decided affirmatively, the first number of the Bulletin was issued May 6, 1876, consisting of twenty-eight octavo pages and a colored plate. Heretofore the Club had pursued the policy of excluding professional ornithologists, rather, however, from a feeling of modesty than from any motive of exclusiveness. Realizing, however, that in order to establish the Bulletin on a firm basis, it was necessary to secure all pos-

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(new series of Amer. Sports.), Vol. VI, p. 50. [Based on observations made at Lake Umbagog, Me.]

10. Ornithological Notes from Portland, Me. By N. C. Brown (Cor. Memb.). Rod and Gun, Vol. VI, p. 65, May 8, 1875. [On the malformation of the bill in a specimen of *Plectrophanes nivalis*, and a record of the capture of *Passerculus princeps* at Portland, and of *Herodias egretta* in Scarborough, Me.]

11. The Burrowing Owl in Massachusetts. By Ruthven Deane. Rod and Gun, Vol. VI, p. 97, May 15, 1875. [Record of the capture of a specimen of *Spcotyto cunicularia* var. *hypogæa* at Newburyport, Mass.]

12. Notes on the Habits of Certain Thrushes. By C. C. Abbott, M. D. (Cor. Memb.). Rod and Gun, Vol. VI, p. 86, May 8, 1875. [Notes on *Turdus Pallasi*, *T. swainsoni*, and *T. fuscescens*, as observed at Trenton, N. J.]

13. Partial List of the Summer Birds of Kanawha County, West Virginia; with Annotations. By W. D. Scott. Proc. Bost. Soc. Nat. Hist., Vol. XV, pp. 219–230, Oct. 1872. [A list of eighty-six species, with notes.]

14. Some Observations on the Birds of Ritchie County, West Virginia. By Wm. Brewster. Ann. Lyc. Nat. Hist. N. Y., Vol. XI, pp. 129–146, June, 1875. [An annotated list of one hundred species.]

15. Some Additional Light on the so-called *Sterna portlandica*, Ridgway. By Wm. Brewster. Ann. Lyc. Nat. Hist. N. Y., Vol. XI, pp. 201–207, Nov. 1875. [Its probable identity with *S. macrura* maintained.]

sible aid in its support, and feeling also that the Club had given some token of its earnestness, the leading ornithologists of the United States were invited to co-operate with the Club as either resident or corresponding members. Upon their election the resident members of the Club were gratified to receive from the gentlemen so elected not only letters accepting membership, but containing expressions of the warmest interest in the objects and prosperity of the Club, together with offers of hearty assistance in the maintenance of the Bulletin as a permanent journal of Ornithology.

With the present number the Bulletin becomes somewhat changed in its character, and greatly improved in typographical appearance. It is hereafter intended not only to present in each number original communications, but to give short notices of recent ornithological publications, especially such as relate to American Ornithology, and also a variety of notes and general miscellany. With the promises of literary support already received (see Prospectus), the Club publishes its second number of the Bulletin, feeling that its establishment as a journal creditable to American ornithologists is assured.

REGARDING BUTEO VULGARIS IN NORTH AMERICA.

BY ROBERT RIDGWAY.

After having been repeatedly given as a North American species, in consequence of the erroneous identification of some one or other of its strictly American congeners, this common European bird has at last a claim to be included in our fauna. Such at least is the case according to the incontrovertible evidence presented in Mr. Maynard's article in the last number of this Bulletin (Vol. I. No. 1, pp. 2 – 6). The specimen upon which these remarks are based is a veritable *B. vulgaris*, as we are fully satisfied from a personal inspection; but, instead of concurring in the statement that "three specimens of the Common Buzzard have actually been taken within our limits," we believe, on the contrary, that only the one in question has been procured this side of the Atlantic, so far as the

records show ; while there is a reasonable cause for suspecting that even this may have come into the possession of the collector in some manner forgotten by him, and that his circumstantial account of its capture refers to some other specimen. Mr. Maynard bases his belief that this species "will be found of regular occurrence in the Northwest" on the supposition that the birds which Audubon figured and described under the name of "*Falco buteo*," is of this species. That this opinion is erroneous, and that the plate and description cited refer wholly to *B. swainsoni* and the young of the Western Red-tail (*B. borealis calurus*), we hold to be demonstrable.

It is very evident that Audubon does not describe the same bird which he figures, his plate representing clearly the adult female of *B. swainsoni*, in the normal or white-throated dress,* while the description is as certainly taken from a specimen of a species belonging to the other group.† In our assertion that the plate referred to is a representation of the adult female of *B. swainsoni*, we can cite several points in proof: the well-defined white throat-patch, the uniform brown pectoral area, and the numerous bars on the tail, — in fact, every detail of coloration. In the second place, Audubon expressly states at the beginning of his account that the specimen from which the figure was taken "was shot by Mr. Townsend on a rock near the Columbia River"; it must therefore have been one of the specimens which Nuttall subsequently described as "*Buteo montana*" ("White-throated Buzzard"), and, referring to his work (p. 112, ed. of 1840), we find that such is indeed the case, since he cites Audubon's plate in the following manner: "*F. Buteo*, Aud., pl. 372 [female]." The case is made still plainer by the text itself, the whole of which relates, unmistakably and very clearly, to *B. swainsoni*.‡ The wide discrepancies between the description which follows Audubon's plate and the bird represented in the plate itself can only be explained upon the supposition that the description was penned subsequently from a different specimen, — a procedure well known to have been common with that distinguished author. No one familiar with the different phases of

* See Pr. Ac. Nat. Sci. Philad., March 30, 1875, p. 89.

† Ibid., p. 105.

‡ Mr. Cassin identified Nuttall's bird as the light-colored phase of the Western Red-tail, to which throughout his writings he gave the name "*Buteo montanus*, Nutt." The error was first corrected in Coues's "Key to North American Birds," 1872, p. 217.

B. swainsoni and *B. vulgaris*, would think of referring the plate to the latter, but would instantly recognize in it the adult female of the former in the ordinary light phase of plumage.* The identification of the bird described is not so readily made, but we will attempt it by a careful analysis of the text.

The first two paragraphs of the description referred to may as well be passed over, since they are only an enumeration of generic characters; the third paragraph also contains little to the point, save the following clause: "Fourth quill longest, the third next, the fifth very little shorter, the second longer than the fifth, the first and seventh about equal; *first four abruptly cut on the inner web.*" † Now as regards the coloration: "The general color of the upper parts is chocolate-brown. The quills are of the general color externally, but the primaries are black toward the tip; a great part of the inner web, with the shaft, white, and barred with brownish-black, the bars more extended on the secondaries.‡ The tail is marked with about ten dusky bars on a reddish-brown ground, tinged with gray, the last dark bar broader, the tips paler. § The eyelids are whitish, as is the throat, which is longitudinally streaked with dusky. ‖ The rest of the lower parts are yellowish

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* Of the distinctive characters of these two species, only one of those enumerated by Mr. Maynard holds good; the radical difference between them in the emargination of the primaries being the one referred to. As to the feet, they are more slender in *B. vulgaris* than in *B. swainsoni*, while in the latter the under wing-coverts are often pure white, — by no means always rufous. [For diagnosis covering all the known variations of plumage and proportions in this species, based on the careful examination and comparison of more than a hundred specimens, the reader is referred to the Proceedings of the Academy of Natural Sciences of Philadelphia, March 30, 1875, pp. 92, 104.]

† In *B. vulgaris* the third, fourth, or fifth quill is longest, usually the third and fourth, which are generally equal; the relative proportion of the quills is the same in *B. borealis* (including all its forms), and in *B. swainsoni* the third or fourth, usually the third, is longest; hence on account of its variability this character is not of much value.

‡ So far equally applicable to *B. vulgaris* and the young of *B. borealis*.

§ In *B. vulgaris* the tail is grayish- rather than reddish-brown, seldom with a tinge of red; the bars are always badly defined, excepting on the middle feathers, and become more or less obsolete toward the base, — those which are distinct being of an indefinite number, but usually *about* ten. The young of *B. borealis* frequently has the tail decidedly reddish, and the bars almost always well-defined, and nine or ten in number.

‖ Will answer for either *B. vulgaris* or *B. borealis*.

or brownish-white barred with brown.* The lower wing-coverts are white, barred or spotted with dusky; the white of the inner webs of the primaries forms a conspicuous patch, contrasted with the grayish black of their terminal portion.†

"Length to end of tail, 23 inches; wing, from flexure, 17; tail, $10\frac{1}{2}$; bill along the ridge, $1\frac{8}{12}$; along the edge of the upper mandible, $1\frac{7}{12}$; tarsus, $3\frac{5}{12}$; hind toe, 1, its claw, $1\frac{1}{12}$; middle toe, $1\frac{6}{12}$, its claw, $1\frac{1}{12}$." ‡

From the preceding analysis of the "*Falco buteo*" of Audubon, we can only conclude that his description was taken from a young example of *Buteo borealis calurus*, which Mr. Townsend may have obtained somewhere in the Northwest. As an exceedingly pertinent fact in this connection, it may be observed that Audubon nowhere describes the young plumage of *B. borealis*, nor does he figure it. He was, therefore, apparently unacquainted with the species in this stage, and might readily have taken it for a different species, and the *B. vulgaris* would be the one most likely to suggest itself, especially in view of the circumstance that it had been already given as a North American bird by Swainson and Richardson.

So far as the text goes, there is a probability of reference to *B. swainsoni* only in the last sentence of the paragraph following the description. This reads as follows: "The colors, however, vary, and in some the upper parts are deep brown, the lower reddish- or brownish-white, barred with reddish-brown."

To those interested in this subject, descriptions of the various phases of plumage in *Buteo borealis* may not be unacceptable in this connection: we accordingly present the following, taken from the series contained in the National Museum:—

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* This suits the young of *B. borealis* very well; in *B. vulgaris* the markings of the lower parts are exceedingly variable, but they are for the most part rather *longitudinal* than transverse, *unless the dusky color predominates*, in which case there are rather well-defined bars of *white* on the abdomen.

† Characters common to *B. vulgaris* and *B. borealis*, and often not very different in *B. swainsoni*.

‡ In a series of six specimens of *B. vulgaris*, the *maximum* length of wing is 16.60, the minimum being 15.50; the tail, 8.80–10.00; culmen (including cere), 1.20–1.30; tarsus, 3.00–3.50; hind toe, .70–.85, its claw, .90–.95; middle toe, 1.40–1.55, its claw, .75–.78. It will thus be observed that the measurements of Audubon's bird are decidedly too great for *B. vulgaris*, while they in every way accord with those of an average specimen of *B. borealis*.

Buteo vulgaris: Sp. Ch. — Wing, 15.50 – 16.60 ; tail, 8.80 – 10.00 ; culmen, .85 – .95 ; tarsus, 3.00 – 3.50 ; middle toe, 1.40 – 1.55. Four outer primaries with inner webs emarginated ; third, fourth, or fifth quill longest (usually the third and fourth) ; first shorter than seventh, eighth, or ninth (usually intermediate between seventh and eighth). Tail even or very slightly rounded. Tail brownish, in some examples touched with rufous, sometimes with a narrow whitish tip, crossed by an indefinite number (about 10 – 13) bands of dusky, more or less indistinct basally ; the inner webs lighter than the outer, sometimes whitish, the bars more distinct. Inner webs of the primaries usually plain white anterior to their emargination, in marked contrast with their dusky tips, the white sometimes immaculate, oftener with indications of bars, especially next the shaft, and rarely broken by a sprinkling or clouding of grayish ; outer webs grayish-brown, with indistinct darker bars, which become gradually obsolete towards the ends of the quills. Plumage generally a mixture of sooty-brown and white, in varying proportionate amount, in some specimens with occasional touches of rufous.

In this species there appear to be no well-marked growth stages, nor does there seem to be much if any difference in plumage between the sexes ; on the other hand, the range of individual variation is very great, fully equalling that of either *B. borealis* or *B. swainsoni*. It is believed that the specimens contained in the National Museum illustrate the main variations, and as no two of these examples are alike, we will describe each one in detail : —

Adult Males.

Light Phase (No. 56,105, Germany). — Above grayish brown, broken by whitish edges of the feathers, these most distinct on the scapulars and middle wing-coverts ; lesser wing-coverts much spotted with deep buff, and scapulars irregularly marked with the same ; rump distinctly spotted with deeper buff ; remiges plain brown, very indistinctly banded with darker, the primaries with a decided hoary cast, the secondaries and inner primaries narrowly tipped with whitish. Outer upper tail-coverts white, with a few brownish spots. Tail grayish-brown, of the same shade as the secondaries, the inner webs whitish with well-defined bars towards their ends, the outer webs with just appreciably darker narrow bands. Head, neck, and lower parts white ; crown and nape streaked with grayish-brown, the streaks widest on the crown ; a rictal stripe of blended streaks, and a narrower and less distinct longitudinal series of streaks on the middle of the throat ; jugulum with a wide collar of large cordate or broadly ovate spots of brown, with black shafts, the patch interrupted in the middle portion ; abdomen with irregular bars and transverse spots of brown, and flanks with larger and more irregular spots of the same ; other por-

tions of the lower surface immaculate. Axillars immaculate pure white; lining of the wing pale cream-color, with longitudinal tear-shaped markings or streaks of rusty brown; under primary coverts with a large patch of grayish-brown, formed by the terminal half or more of each feather being of this color; inner webs of the primaries immaculate white anterior to their emargination. Wing, 15.70; tail, 9.00.

This specimen presents a very close general resemblance to lighter colored examples of the young of *B. borealis*, the only obvious difference being the cluster of spots on the jugulum (which in *borealis* is plain white), the obsolete character of the bars on the tail, and the more slender tarsi.

Dark Phase (No. 9,689, Europe). — Prevailing color clove-brown, or sooty grayish-brown, this entirely unbroken on the upper surface, but beneath slightly variegated with very narrow whitish streaks on the cheeks and throat, irregular bars and spots of the same on the abdomen; tibial feathers with rusty tips; crissum grayish-white with brownish spots and bars; white of under surface of primaries broken by a confused sprinkling or mottling of grayish; lining of the wing sooty-brown, irregularly spotted with buff and rufous. Tail grayish-brown, considerably lighter than the wings, narrowly tipped with dirty whitish, and crossed by narrow bands of darker brown, the last of which is much the widest (about 1.00 in breadth), the others decreasing in distinctness toward the base. Darker bars on the remiges almost entirely obliterated. Wing, 16.40; tail, 9.00.

This example is almost identical in coloration with the dark phase of *Buteo swainsoni*,* the only obvious difference being the white bars and spots on the abdomen.

YOUNG MALE.

Light Phase, Albinescent? (No. 56,104, Germany). — Prevailing color pure white; head, neck, and lower parts immaculate, except a few narrow streaks on the forehead and below the auriculars, a few scattered streaks on the side of the breast, and a slight spotting on the sides; occiput and nape more distinctly streaked. Lesser wing-coverts almost immaculate pure white, and middle coverts so broadly bordered with white that this color prevails; greater coverts tipped with white. Back dark brown, the feathers narrowly bordered with white; scapulars with broader white margins. Entire rump and upper tail-coverts immaculate creamy white. Remiges and rectrices as usual, but the middle pair of the latter with their inner webs buffy white, with broken bars and spots of grayish-brown. Wing, 15.50; tail, 9.75.

* See Pr. Ac. Nat. Sci. Philad., March 30, 1875, p. 115.

This plumage is so well represented in the upper figure of Plate XXXIII of Naumann's *Vögel Deutschlands*, that the illustration must have been taken from an exceedingly similar specimen; the figure, however, represents a slightly darker bird, with a few spots on the breast and lesser wing-coverts. It is also very much like the young of *Buteo borealis krideri*, as represented in Plate V, Pr. Ac. Nat. Sci. Philad., 1873, so far as regards the relative amount of brown and white; but the markings are quite different, especially on the remiges and rectrices.

FEMALES.

Light Phase, Adult (No. 56,107, Germany). Above grayish-brown, quite light on the tertials, some of the wing-coverts, and scapulars, which have still lighter (nearly white) borders; all the feathers bordered with a paler, grayer shade, and showing distinct black shafts; upper tail-coverts brown, narrowly tipped with soiled pale buff, the outer webs with a slight mottling of ochraceous. Tail grayish-brown narrowly tipped with dull buffy white, and crossed with nine or ten narrow bands of dusky, these mostly indistinct, but well defined on the inner webs of the intermediæ where the ground color is lighter and mixed with ochraceous. Head, neck, and breast light brown, the feathers edged with whitish, causing a slight streaked appearance; flanks uniform brown, the feathers with narrow whitish tips; abdomen white, heavily spotted with dark brown; *this abdominal belt separated from the lighter and more uniform brown jugular patch by a somewhat crescentic pectoral belt of white nearly free from markings;* tibiæ nearly uniform brown, lighter in front and on the inside, the longer plumes tipped with light fulvous; crissum immaculate white. Lining of the wing mixed rusty-rufous, buff and brown. Wing, 16.00; tail, 9.30.

This specimen presents a curious and very strong resemblance to the adult *Archibuteo lagopus* in the coloration of the lower parts, not only in the colors and markings but in the peculiar pattern.

Dark Phase, Adult? (No. 56,109, Germany). — General color sooty-brown, this darkest on the head, neck, back, and breast (which have a decided purple reflection in certain lights), the general duskiness relieved only by rusty edges to the feathers; scapulars "spattered" or blotched with pale cinnamon-rufous; rump and upper tail-coverts uniform sooty-brown, the latter with very narrow and indistinct rusty tips. Tail grayish-brown, with narrow bands, of which about eight or nine are distinct, the inner webs of the middle pair much tinged with rufous. Abdomen marked with broad bars, or bands of dark brown and buffy-white, of about equal width; the white bars most distinct and regular anteriorly, thereby throwing into greater relief the dusky pectoral patch, which has a convex poste-

rior outline ; flanks and tibiæ nearly uniform brown ; crissum white, with very regular wide bars of brown ; lining of the wing dusky, spotted with rusty. Wing, 16.50 ; tail, 9.50.

In the coloration of its lower parts, this example calls to mind certain specimens of *Pernis apivorus* which we remember to have seen. A somewhat similar individual is represented in the lower figure of Plate XXXII of Naumann's *Vögel Deutschlands.*

Dark Phase, Young? (No. 23,407, Hungary). — Lower parts white, tinged in places with ochraceous, the tibiæ uniform dark brown on the outside, spotted brown and ochraceous on the inner sides. Throat, jugulum, breast, and abdomen marked with longitudinal stripes of dark brown, those on the throat narrow and linear ; on the sides of the breast broadly ovate and blended, on the abdomen tear-shaped ; crissum white, with a few scattered spots of brown. Tail grayish-brown, tipped with bright ochraceous, and crossed by very indistinct darker bands. Upper parts in general nearly uniform dark brown, the scapulars and lesser wing-coverts tinged with rusty. Wing, 16.40 ; tail, 9.75.

List of Specimens in U. S. National Museum.

Nat. Mus. Number.	Sex and Age.	Original Number.	Locality.	Date.	Donor.
9,689	♂ ad	....	Europe	....	S. F. Baird.
23,407	♀ jud.	3,407	Hungary	1860	Count Lamar.
56,104	♂ jud.	53	Germany	....	H. Schlütter.
56,105	♂ ad.	51	"	....	"
56,107	♀ ad.	49	"	....	"
56,109	♀ ad.	48	"	....	"

ADDITIONS TO THE AVI-FAUNA OF ILLINOIS, WITH NOTES ON OTHER SPECIES OF ILLINOIS BIRDS.

BY E. W. NELSON.

SINCE the publication of Mr. R. Ridgway's "Catalogue of the Birds ascertained to occur in Illinois," * several species not named therein have been taken in the State, and many interesting notes respecting other little-known species have been gathered. Only the most important of the latter will be noticed in the present paper.

* Ann. N. Y. Lyc., Vol. X, Jan., 1874.

All matter enclosed between quotation-marks is from the manuscript notes of Mr. Ridgway, who has kindly furnished them for use in the present connection. The remainder, with a few exceptions (where due credit is given), are from my own observations. The first list comprises the fifteen species new to the State.

1. **Myiadestes townsendi**, *Cab.* TOWNSEND'S SOLITAIRE. — A fine specimen of this bird was obtained December 16, 1875, by Mr. Charles Douglas at Waukegan, Illinois. The specimen is considerably darker than one in my collection from Utah, collected about the same time of year.

2. **Coturniculus lecontei**, *Bon.* LECONTE'S BUNTING. — A single specimen of this rare bird was obtained by the writer at Riverdale, Illinois, May 13, 1875. It was flushed from a slight depression in the open prairie near the Calumet River, where the moisture had caused an early growth of coarse grass, about three inches in height. After darting off in an erratic course for a few rods, it suddenly turned, and alighting ran rapidly through the grass, from which it was with difficulty started again and secured.

3. **Ammodromus caudacutus** var. **nelsoni**, *Allen.* WESTERN SHORT-TAILED FINCH. — This variety of the Sharp-tailed Finch was first obtained September 17, 1874, in the Calumet Marsh, and described by Mr. J. A. Allen in the Proceedings of the Boston Society of Natural History (December, 1874), with a few notes regarding its habits. Since then I have learned of its capture at several widely separated localities in Northern Illinois, it appearing to frequent all suitable situations. The 12th of June, 1875, I saw several of these birds in the dense grass bordering Calumet Lake, where they were undoubtedly breeding. They were very numerous November 10, 1875, in the wild rice bordering Grass Lake, in Lake County, Illinois. A sharp frost that night caused them to leave so suddenly that the next afternoon not one was to be found.

4. **Chordeiles popetue** var. **henryi**, *Cassin.* WESTERN NIGHT-HAWK. — Two specimens of this variety were obtained by my friend Mr. F. L. Rice near Waukegan, Illinois, July, 1875. In the same vicinity I have obtained several specimens of this variety the present season. In comparing specimens from Illinois with typical specimens of *henryi* in my collection from the Rocky Mountains, I find they agree in all the characteristics upon which the variety is based.

5. **Buteo borealis** var. **calurus**, *Cassin.* BLACK RED-TAIL. — In my collection is a fine adult specimen of this variety which was captured near Chicago in April, 1873, by my friend, Mr. Charles Smith.

6. **Ardea rufa**, *Bodd.* REDDISH EGRET. — This species was quite common in the vicinity of Cairo during the last week of August, 1875. The unusually high water of that season caused a much larger number of herons to appear along the rivers in this vicinity than usual. Although *Ardea*

egretta and *A. cærulea* — both of which species were seen by the hundred daily — were quite unsuspicious, *A. rufa* was so exceedingly shy that it was almost impossible to get within gunshot of one.

7. **Branta canadensis** var. **leucoparia**, *Cassin.* WHITE-COLLARED GOOSE. — Specimens of this variety are frequently taken during their migrations.

8. **Bucephala islandica**, *Baird.* BARROW'S GOLDEN-EYE.—"Obtained in December, 1874, at Mt. Carmel, by Professor F. Stein, C. E., in charge of the improvements of the Wabash River." Also occurs on Lake Michigan in winter.

9. **Somateria mollissima**, *Leach.* EIDER DUCK. — An immature specimen was shot near Chicago in December, 1874, and is now in my collection. Dr. H. B. Bannister of Evanston has seen other specimens taken near that place.

10. **Somateria spectabilis**, *Leach.* KING EIDER. — "An adult female, obtained at Chillicothe, on the Illinois River, in the winter of 1874, has been sent to the National Museum by W. H. Collins, Esq., of Detroit, Mich." Undoubtedly occurs on Lake Michigan.

11. **Œdemia perspicillata**, *Kaup.* SURF DUCK. — "A single specimen, an immature bird, was obtained at Mt. Carmel by Professor Stein in October, 1875. This is the first instance known to the writer of this species being obtained at any inland locality. Mr. E. W. Nelson, of Chicago, has, however, informed me of its recent capture on Lake Michigan, near that city." I have since learned that this species is common on the lake and adjacent waters.

12. **Stercorarius pomatorhinus**, *Lawr.* POMARINE JÄGER. — From the description of a bird seen with a flock of gulls near Evanston, Ill., by F. L. Rice of that place, and the account of a strange gull occasionally seen by a sportsman who does considerable shooting on Lake Michigan, I am certain this species is a rare visitant during severe winters.

13. **Larus argentatus** var. **argentatus**. HERRING GULL. — Among a number of gulls obtained in the Chicago Harbor, March 27, 1876, was one specimen, an adult female, which has been pronounced by Dr. Coues to be a typical example of the European form (var. *argentatus*) of the Herring Gull. In this specimen the iris was hazel, while in several adult specimens of the common American form (var. *smithsonianus*) the iris was bright yellow.

14. **Larus leucopterus**, *Fabr.* WHITE-WINGED GULL. — A regular winter visitant to Lake Michigan. Very shy.

15. **Xema sabinei**, *Bonap.* SABINE'S GULL. — While collecting along the shore of Lake Michigan, the 1st of April, 1873, I shot a specimen of this species in breeding plumage. Unfortunately it fell into the water just beyond my reach, and a gale from off shore soon drifted it out of sight.

The following species, although not new to the State, are still imperfectly known as residents of Illinois. The quotations, as in the preceding list, are from the notes of Mr. Ridgway.

1. **Protonotaria citræa**, *Baird.* PROTHONOTARY WARBLER. — Rare summer visitant to the northern portion of the State. Two specimens were taken near Chicago during the summer of 1875.

2. **Siurus ludovicianus**, *Bon.* LARGE-BILLED WATER WAGTAIL. — Quite abundant, and breeds in the northern portion of the State.

3. **Oporornis agilis**, *Baird.* CONNECTICUT WARBLER. — Contrary to the generally received statements, this species is as abundant during the fall as in the spring migrations. They were quite common the 1st of September, 1875, in the Calumet Marsh.

4. **Myiodioctes mitratus**, *Aud.* HOODED FLYCATCHING WARBLER. — A rare summer resident in the northern portion of the State. One specimen was taken May 10, 1875, near Chicago, and a second specimen near Waukegan, Ill., May 20, 1876.

5. **Vireo belli**, *Aud.* BELL'S VIREO. — This species was abundant in the dense bushes bordering the ravines intersecting Fox Prairie, Richland County, Ill., August 9 to 15, 1875. They were exceedingly shy, and although several could be heard uttering their curious song at the same time, and repeated efforts were made to secure them, only two specimens were obtained. I have since examined a specimen of this species shot in the vicinity of Chicago, in June, 1875, and further search will doubtless reveal their presence throughout the State.

6. **Plectrophanes pictus**, *Swains.* PAINTED LARK BUNTING. — The last of March, 1875, near Calumet Lake, I found a flock containing about seventy-five individuals of this species. Their habits were quite similar to those of *P. lapponicus* while upon the ground, except that while the latter species preferred the wet portions of the prairie, the former were found only about the higher portions. When flushed they invariably uttered a sharp clicking note, rapidly repeated several times. When driven from their feeding-place by my approach, they would rise in a straggling flock, and after wheeling about once or twice, start off in a direct line, gradually rising higher, until they disappeared. After a short time their peculiar note would be heard, and the flock, darting down from a considerable height, would alight near the place from which they were driven. Although the flocks of *P. pictus* and *P. lapponicus* often became mingled while flying over the prairie, I did not see them alight together.

7. **Peucæa æstivalis**, *Cab.* BACHMAN'S FINCH. — This species was quite common in the vicinity of Mt. Carmel in July, 1875.

8. **Buteo swainsoni**, *Bon.* SWAINSON'S BUZZARD. — In August, 1875, I obtained four fine specimens of this bird, an adult pair and two young, upon Fox Prairie. The young were shot from the tree on the border of

the prairie in which they were reared, the remains of the nest in which they were hatched being pointed out by a farmer living near.

9. **Tantalus loculator**, *Linn.* WOOD IBIS. — This species was very abundant in the vicinity of Mound City, on the Ohio, and Cape Girardeau, on the Mississippi, the last of August, 1875.

10. **Nycterodius violaceus**, *Reich.* YELLOW-CROWNED NIGHT-HERON. — "In my 'Catalogue of the Birds ascertained to occur in Illinois' (p. 386), the Yellow-crowned Night-Heron is included as a 'summer visitant to the extreme southern portion of the State,' and in my later 'Catalogue of the Birds of the Lower Wabash Valley' it is given in the list of 'species found only in summer' (p. 26) as 'common?' More recently, however, we have received information, in the shape of two fine adult specimens shot from their nests, accompanied by an account of their capture, which confirms the breeding of the species in considerable numbers as far up the river as Mt. Carmel. The locality where they were found is a portion of bottom-land known as 'Coffee-flat,' where a small colony was found nesting by Mr. Samuel Turner and my brother, John L. Ridgway, on the 6th of May, 1874. Two fine adult specimens in their breeding plumage were obtained, as were also a few eggs. One nest is described as situated in a white-oak tree about sixty feet from the ground, on a branch four inches in diameter, twelve feet from the trunk of the tree, and upon so small a limb that the eggs could not be obtained. The nest was composed of sticks, the outer ones about half an inch in diameter, the interior ones finer, and so loosely put together that the eggs could be plainly seen through the nest. There were four eggs, and another ready to be laid was taken from the parent bird. The number of nests found in this locality is not stated in the letter, but another nest is mentioned which was upon a tree about fifty feet distant."

11. **Porzana noveboracensis**, *Cass.* YELLOW RAIL. — Not very rare in the northern portion of the State, and without doubt breeds.

12. **Porzana jamaicensis**, *Cass.* BLACK RAIL. — A regular summer resident, and not very rare. During the spring of 1875 I saw three specimens in the Calumet Marsh; and Mr. Frank De Witt of Chicago, while collecting with me near the Calumet River, June 19, 1875, was fortunate enough to find a nest of this species containing ten freshly laid eggs. The nest was situated in a deep cup-shaped depression, and in shape and situation resembled that of the Meadow Lark, except that the Rail's nest is much deeper in proportion to the diameter. The nest was more elaborately made than the nest of any other of the genus I have seen. The outer portion is composed of grass-stems and blades, the inner portion of soft blades of grass arranged in a circular manner and loosely interwoven. Owing to the small diameter of the nest there were two layers of eggs. The eggs are clear white, thinly sprinkled with reddish-brown dots, which become much more numerous about the large end.

13. **Harelda glacialis**, *Leach.* LONG-TAILED DUCK. — "Obtained by Professor Stein at Mt. Carmel, in December, 1874." Exceedingly abundant on Lake Michigan every winter.

14. **Graculus dilophus** var. **floridanus**, *Coues.* FLORIDA CORMORANT. — "In the spring of 1874, several very fine specimens of the Florida Cormorant were obtained at Mt. Carmel by Mr. S. Turner and my brother, John L. Ridgway, and others were obtained during the succeeding summer, the species being abundant along the river. This form is a summer resident, while the true *G. dilophus* occurs only in winter and during the migrations."

NOTES ON THE BREEDING HABITS OF CLARKE'S CROW (*PICICORVUS COLUMBIANUS*), WITH AN ACCOUNT OF ITS NEST AND EGGS.

BY CAPTAIN CHARLES BENDIRE, U. S. A.

[The following account of the breeding habits, nests, and eggs of Clarke's Crow is based on observations made the present year in the vicinity of Camp Harney, Oregon, by Captain Bendire, and is compiled, with his permission, from his letters addressed to the writer. The only previous account of the nest and eggs of Clarke's Crow seems to be that given by Mr. J. K. Lord (in his "Naturalist in Vancouver"), who found this species nesting near Fort Colville, in Washington Territory, in the top of a high pine, two hundred feet from the ground. — J. A. ALLEN.]

ON April 22, 1876, I succeeded in finding two nests of Clarke's Crow. One contained three young, possibly four days old; the other, one young bird and two eggs, one of the latter already cracked. The nests were placed in pine trees. On the 27th I again visited the mountains, and made thorough search near where the first nests were found, and discovered another in which the young could not have been more than one day old. One of the nests discovered on the first visit I brought away in excellent order. It was placed on the extremity of a branch, on a pine (*Pinus ponderosa*), about twenty-five feet from the ground, and well protected from view by longer branches projecting both above and below the nest. It is a bulky affair, like all the others I have seen, but looks quite small as viewed from below. The nest proper rested on a platform of small sticks of the white sage, placed on the pine branches, and is composed of dry grasses, vegetable fibres and

the fine inner bark of *Juniperus occidentalis*. The whole mass is well woven together, and makes quite a warm, comfortable structure. The outer diameter of the nest is eight and a half inches; the inner, four and a half; depth inside, three and a quarter inches; outside, five inches. The two eggs measure respectively 1.22 by .95 inches, and 1.20 by .90. Ground color, light grayish-green, speckled and blotched with grayish, principally about the larger end. On the smaller egg the spots are finer and more evenly distributed, a few of them being rather of a lavender color than gray. These eggs resemble in shape those of Maximilian's Jay (*Gymnokitta cyanocephela*), two of whose eggs I have from Mr. Aiken out of the nest found by him in Colorado. The markings on those, however, are darker and thicker than on those of Clarke's Crow, and the eggs are a little smaller.

All the nests I have seen were placed in pine trees, well out on the limbs, and generally twenty to forty feet from the ground. Trees with plenty of branches seem to be preferred, and the edges of the pine timber to the interior of the forests. Now that I know where to look for these nests, I have no difficulty in finding them, and feel certain of getting a number of nests if I am here next year. I regret that I did not discover one a few weeks earlier.

The female seems to be a very close sitter, and the birds seem very devoted to their young and eggs. When the first nest was visited the bird would not leave it at all, and though the man pulled out part of its tail in taking it off, it came back again before he left the nest himself. On the second visit, in order to see how much disturbance these birds would bear when on the nest, I fired a charge of shot into the limb on which the nest was placed from which I took the two eggs, and about two feet from the nest, and no bird leaving I threw sticks at it and hit the base of the nest once or twice, but still no bird appeared. Then I had the man who was with me climb the tree, and only after he was within a foot of the nest and in plain sight of the bird did it fly off. The young one left in the nest had grown very much during the five days since the first visit.

DESCRIPTION OF A NEW DUCK FROM WASHINGTON ISLAND.

BY THOMAS H. STREETS, M. D., PASSED ASSISTANT SURGEON, U. S. N.

Chaulelasmus couesi.

BILL nearly as long as the head, about as deep as broad at the base, depressed anteriorly, sides nearly parallel but converging slightly toward the base, tip rounded, and unguis abruptly curved; frontal angle short and obtuse; dorsal line at first sloping, rather more so than in *C. streperus*, anterior portion broad, straight, and flattened. Internal lamellæ numerous, small, and closely packed, about seventy-five in number, — in *streperus* only about fifty. Nostrils sub-basal, lateral, large, and oblong.

Plumage (*immature*). Head above dark brown, the feathers tipped with a lighter shade; frontal feathers with the central portion black, and edged with brownish-white; throat and sides of head brownish-white, shafts of the feathers brown, a small brown spot at the extremity of each; lower portion of the neck and breast all around with the feathers marked with concentric bars of black and light reddish-brown; under surface of the body white, each feather with a broad dark band near the extremity, which gives to this region a mottled aspect; toward the tail the white of the abdomen assumes a dull reddish-brown tinge; the brownish-red color becomes more decided on the flanks and sides of the body where covered by the wings. On the back the plumage is more mature. Color dark brown marked transversely by fine wavy lines of black and white; scapulars dark brown and fringed with a narrow rim of reddish-brown. Middle wing-coverts chestnut; greater, velvet black; speculum pure white, the inner web of the white feathers grayish-brown; in the third feather in the speculum, counting from within, the white gives place to a hoary gray with a black outer margin; the primaries light brown, the portion of both webs nearest the shaft lighter; shaft light brown. Tail containing fourteen feathers, hoary plumbeous-gray, under surface lighter and shining; under tail-coverts crossed by transverse bars of black and white; upper coverts composed of dark brown and black feathers mingled. Under wing-coverts and axillars pure white. Bill and feet black, somewhat lighter on the inner side of the tarsus. Tibia bare for about half an inch. Length, 17 inches; wing, 8; tarsus, 1.40; commissure, 1.65; culmen, 1.45; height and breadth of bill at base, .55; average width of bill, .55. First toe, .30; second, 1.48, including claw, shorter than third toe without claw; third toe, 1.88 without claw, longer than outer toe without claw; outer toe, 1.75.

A female is similar, but with little trace of the peculiar wing markings, both the chestnut and black being wanting, and the speculum being hoary gray instead of white. Both the specimens before me are immature; the adults, it is presumed, will show the peculiar vermiculated appearance of *C. streperus*. They resemble the immature condition of *C. streperus* so closely that one description of the coloration would answer for both species; but the *C. couesi* is immediately distinguished by its greatly inferior size, which hardly exceeds that of a teal, the different color of the bill and feet, and the singular discrepancy in the lamellæ of the bill, which are much smaller, and *one-third* more numerous.

Habitat: Washington Island, one of the Fanning Group, situated about latitude 6° N. and longitude 160° W.

I dedicate this new species to one of our most distinguished ornithologists, Dr. Elliott Coues, U. S. A., as a slight testimonial of regard, and in consideration of the service which he has rendered to the science of ornithology.

Recent Literature.

Descriptions of New Species of American Birds. — Mr. George N. Lawrence has recently described seven new species of birds from tropical America. Two of these are Jays,* one of them (*Cyanocitta pulchra*) being from Ecuador and the other (*Cyanocorax ortoni*) from Northern Peru. The others† are two new species of Tanager of the genus *Chlorospingus* (*C. speculiferus* and *C. nigrifrons*), respectively from Porto Rico and Ecuador, and three new species of Flycatcher (*Serpophaga leucura*, from Ecuador, *Orchilus atricapillus*, from Costa Rica, and *Empidonax nanus*, from St. Domingo). The descriptions of two of the species (*Chlorospingus speculifera* and *Serpophaga leucura*) are accompanied by colored figures. — J. A. A.

Birds of Kansas. — Professor F. H. Snow has recently published a third edition of his "Catalogue of the Birds of Kansas,"‡ giving an annotated list of 295 species. Twenty-three species and one variety have been added since the publication of the second edition in October, 1872; and it is believed a few others will still be added by further research. The list is very creditable to the zeal and energy of Professor Snow and

* Description of a New Species of Jay of the Genus *Cyanocitta;* also of a supposed New Species of *Cyanocorax*. By George N. Lawrence. Annals of the Lyc. of Nat. Hist. N. Y., Vol. XI, pp. 163–166. [Published Feb. 1876.]

† Descriptions of Five New Species of American Birds. By George N. Lawrence. Ibis, 3d Series, Vol. V, pp. 383–387, Plate IX, July, 1875.

‡ A Catalogue of the Birds of Kansas. Contributed to the Kansas Academy of Science. 8vo. pp. 14. November, 1875.

his fellow-workers, who have done so much to make known the avian fauna of Kansas.— J. A. A.

Ornithology of Kerguelen Island. — In addition to the very interesting and valuable report on the birds of Kerguelen Island * published some months since, Dr. Kidder has recently, in conjunction with Dr. Coues, given an account of the Oölogy of the island,† including detailed descriptions and measurements of the eggs, together with an account of the breeding habits of all the species found breeding there. These are about twenty in number, and all but one are aquatic. They include the heretofore little-known *Chionis minor*, the recently described *Querquedula eatoni*, *Graculus carunculatus*, ‡ three species of the Gull family (*Laridæ*), eleven species of the Petrel family (*Procellariidæ*), and four species of Penguins (*Sphenisciduæ*), the eggs of a considerable proportion of which had not been before described.

With this paper is published, by the same authors, "A Study of *Chionis minor* with reference to its Structure and Systematic Position." § This essay opens with a résumé of the literature of the species, beginning with the founding of the genus *Chionis* by Forster in 1788. Then follows a description of its anatomy, including an account of its myology, of the viscera and the skeleton ; of its habits, general appearance in life, and external characters. In some features *Chionis* is found to have a considerable superficial, as well as osteological resemblance to the Gulls, and also to the *Grallæ*, with which latter group it has heretofore been usually associated ; but other features point to its association with either of these groups as unnatural. In summing its external characters, say these authors, "we see how exactly *Chionis* stands between grallatorial and natatorial birds, retaining slight but perfectly distinct traces of several other types of structure." Its digestive system is regarded as "decidedly rasorial in character," while its cranial and sternal characters show its strong alliance to the Gulls, with a less close relationship to the Plovers. On the whole, *Chionis* seems to be made up of distinctive characteristics amounting almost to anomalies, and in view of its remoteness from any other group, it is regarded by our authors as entitled to distinct superfamily rank, standing between the Gulls and Plovers, but rather nearer to

* Contributions to the Natural History of Kerguelen Island. By J. H. Kidder, M. D., Passed Assisant Surgeon U. S. Navy. I. Ornithology. Edited by Dr. Elliott Coues, U. S. A. Bulletin of the United States National Museum, No. 2. Washington: Government Printing-Office, 1875. 8vo. pp. 51.

† Contributions to the Natural History of Kerguelen Island. By J. H. Kidder. II, pp. 6–20. Bull. U. S. Nat. Mus. No. 3. Washington [etc.], 1876.

‡ [*Graculus verrucosus* = *Haliœus* (*Hypoleucus*) *verrucosus*, n. sp. Cab., Journ. f. Orn., Jahrg. XXIII, Oct. 1875, p. 450. — Elliott Coues.]

§ Contributions to the Natural History of Kerguelen Island. By J. H. Kidder. II, pp. 85–116. Bull. U. S. Nat. Mus. No. 3. Washington [etc.], 1876.

the former. For this group the super-family name *Chionomorphæ* is proposed. In view of some differences between *Chionis alba* and *Chionis minor* that are noted as of probably supra-specific value, the new generic title of *Chionarchus* is proposed for *C. minor*. — J. A. A.

Extinct Birds with Teeth. — A few months since, Professor O. C. Marsh of New Haven described* several species of extinct birds with teeth from the Cretaceous of Kansas. One of these (*Ichthyornis dispar*, Marsh) was an aquatic bird of about the size of a pigeon. Its jaws and teeth show it to have been carnivorous, and its powerful wings indicate that it was capable of prolonged flight. The teeth were numerous, small, compressed and pointed, set in distinct sockets, and their crowns were covered with nearly smooth enamel. A second species (*Apatornis celer*, Marsh) is of about the same size as the first named, but of more slender proportions. Another species (*Hesperornis dispar*, Marsh), one of the most interesting of the group with teeth yet found, was a gigantic diver. Its teeth had no true sockets, but were placed in grooves and supported on stout fangs. In form they somewhat resemble the teeth of the Mosasauroid reptiles, and they had the same method of replacement.

Professor Marsh has since described† two other species of the same group, both of gigantic size. One of these is named *Hesperornis gracilis*, and the other *Lestornis crassipes*, the latter representing a new genus as well as a new species. These interesting forms are regarded as representing two distinct orders (*Odontotormæ* and *Odontolcæ*) of the subclass *Odontornithes* (*Aves dentatæ*) or toothed birds, which combine in a peculiar manner many reptilian characters with others truly avian. — J. A. A.

"Life-Histories of the Birds of Eastern Pennsylvania."‡ — Under this title Mr. T. G. Gentry has given the public a most welcome volume of biographies of the birds of Eastern North America. The work is based on the author's careful studies of the birds of Eastern Pennsylvania, and bears strongly the stamp of originality. The general habits and songs of the different species are faithfully described; while the character of their nests, the manner of building, periods of incubation, the age of the young on quitting the nest, etc., etc., are dwelt upon in detail; the food of each is also carefully noted. The author's style is unostentatious and simple, at times lapsing into carelessness; but the chief defect of the book is its unprepossessing typographical appearance, printer's blunders of every description abounding, while the paper and type are wholly un-

* American Journ. Sci. and Arts, Nov. 1875, pp. 403–409, Plates IX, X, (reprinted in Amer. Nat., Vol. IX, pp. 625–631, Plates II, III).

† Amer. Jour. Sci. and Arts., June, 1876, pp. 509–511.

‡ Life-Histories of the Birds of Eastern Pennsylvania. By Thomas G. Gentry, Member of the Academy of Natural Sciences of Philadelphia, and of the Canadian Entomological Society of Toronto. In two volumes. Vol. I: Philadelphia. Published by the author, 1876. 12 mo., pp. xvi, 309.

worthy of so valuable a work. These faults of mechanical execution can, however, be easily remedied in a future edition, which we sincerely hope the demand for the work will soon call for. The present volume includes the Song-Birds as far as the *Corvidæ* of Dr. Coues's arrangement, and forms a work that no ornithologist can be without, while its popular character ought to insure it a wide range of readers. — J. A. A.

General Notes.

Breeding of the Canada Goose in Trees. — Dr. Coues, in his "Birds of the Northwest" (p. 554), alludes to the breeding of the Canada Goose (*Branta canadensis*) in trees in "various parts of the Upper Missouri and Yellowstone regions." He refers to the fact as being little known, and as not personally verified by himself, though perfectly satisfied of the reliability of the accounts furnished him by various persons, including Mr. J. Stevenson of Dr. Hayden's Survey. Dr. Coues further adds that he found the circumstance to be a matter of common information among the residents of Montana Territory. "The birds," he says, "are stated to build in the heavy timber along the larger streams, and to transport their young to the water in their bills."

The fact of the breeding of the Canada Goose in trees is further confirmed by Captain Charles Bendire, who reports its breeding in this manner near Camp Harney, under, however, rather peculiar circumstances. In a letter dated Camp Harney, Oregon, April 24, 1876, Captain Bendire writes as follows: "The season is very backward, and scarcely any of the small species of birds have commenced to build yet. The water is very high, and the whole lower Harney valley is flooded. The Western Canada Geese seem to have anticipated such a state of affairs, as last year I did not see a single nest of theirs off the ground, while this spring all of them, as far as I have observed personally or have heard of through others, are built in trees off the ground, mostly in willows. Some make use of Herons' nests, and one of a Raven's nest, the only Raven's nest I found last year in a tree." Apropos of this change of habit with circumstances, Captain Bendire asks the pertinent question, "Is it instinct or reason?" — J. A. Allen.

Tarsal Envelope in Campylorhynchus and allied Genera. — Impressed with certain differences observable between typical Wrens and the three Western genera, *Campylorhynchus*, *Salpinctes*, and *Catherpes*, generally assigned to the *Troglodytidæ*, I have been led to look into the technical aspects of the case, with the result of becoming dissatisfied with the alleged position of these forms among the Wrens. In establishing the

genus *Catherpes* as distinct from *Salpinctes*, Professor Baird noted certain discrepancies in the structure of the feet; and in 1864 (Review, p. 109), he enlarges upon the remarkable structure of the tarsus of *Salpinctes*, which he characterizes as "especially peculiar among all its cognate genera by having the usual two continuous plates along the posterior half of the inner and outer faces of the tarsus divided transversely into seven or more smaller plates, with a naked interval between them and the anterior scutellæ." This is certainly a remarkable feature for a presumed thoroughly Oscine bird to exhibit, since it is highly characteristic of *Oscines* to have the postero-lateral tarsal plates continuous, meeting in a sharp ridge behind. I verify the state of the case in *Salpinctes* as given by Professor Baird, but I find, to my surprise, that in *Campylorhynchus* the lateral plates, but especially the outer one, are broken up into a series of conspicuous scutella; and that *Catherpes* shows a tendency, not so fully expressed, to similar division of the tarsal envelope. If this structure really possesses the significance attributed to it by many of the best writers, the question whether these birds are Wrens at all is reopened. That they possess decidedly Wren-like habits is no strong argument, for nothing is more fallacious than such teleological bending of diverse structures to similar ends. It will be remembered that Lafresnaye, and other writers of repute, have placed species of *Campylorhynchus* in the genus *Picolaptes*, which is a member of the large family *Dendrocolaptidæ;* some of these birds have rigid acuminate *Certhia*-like tail-feathers, and Creeper-like habits; in others, however, the tail is soft, and among them is witnessed the greatest diversity of habits. On comparing our *Campylorhynchus* with a typical Dendrocolaptine (*Dendrornis erythropygia*), I find that the bills of the two are extremely similar, and that the tarsal envelope of *Dendrornis* is broken up posteriorly into a number of plates, of which those on the inner aspect are continuous with those in front, while the postero-exterior ones are a series of rounded and isolated scales. Again, in the case of *Salpinctes*, it will be recollected that Bonaparte placed it in the genus *Myiothera*, and considered it an Ant-thrush (*Formicariidæ*). On examining the tarsus of a species of *Thamnophilus*, a typical Formicarian, I find that the plates are divided behind, and the general structure is substantially the same as in *Salpinctes*. The case of *Catherpes* is less clear, but it would doubtless go with *Salpinctes*. These points may not suffice for the summary dismissal of the genera under consideration from the *Troglodytidæ*, but they go to show that their position in that family is not assured. — ELLIOTT COUES.

OCCURRENCE OF THE CURLEW SANDPIPER IN MASSACHUSETTS. — Mr. Charles I. Goodale, our accomplished Boston taxidermist, has a fine Curlew Sandpiper (*Tringa subarquata*) which was sent to him to be mounted. It was shot in East Boston, Mass., early in May, 1876, as it was feeding on a sandspit among a flock of "Peeps." This bird is in very perfect spring plumage, and furnishes the second authentic instance

of the occurrence of this species in New England. In its claims to be regarded as a bird of North America it may best be compared with the Ruff (*Machetes pugnax*). Both are probably not infrequent stragglers to our continent. — WILLIAM BREWSTER.

THE IPSWICH SPARROW IN NEW BRUNSWICK. — On April 11, 1876, while collecting at Point Lepreaux, N. B., in company with Mr. William Stone, we secured a fine female of the Ipswich Sparrow (*Passerculus princeps*, Maynard). It was sitting on a rock on the extreme end of the Point when first seen, and was very easily secured. The yellow over the eye in this specimen is more intense than in any other I have ever examined, and quite equals in this respect the average coloring of the same area in *P. savanna*. This is the third spring specimen that has been thus far reported. The first, a male, was taken by Mr. Maynard at Ipswich, April 1, 1874; and the second by Mr. Willey of Portland, at Cape Elizabeth, Maine, March 15, 1875. The former is now in my possession, and the latter graces the collection of Mr. N. C. Brown of Portland. — WILLIAM BREWSTER.

PASSERCULUS PRINCEPS AND PARUS HUDSONICUS IN CONNECTICUT. — On November 4, 1875, while collecting along the beach at "South End," a few miles below New Haven, I was fortunate enough to secure a fine specimen of the Ipswich Sparrow (*Passerculus princeps*, Maynard). The specimen was a female, and in excellent condition. Its mate was seen, but escaped capture.

On November 13, 1875, Mr. Robert Morris, while shooting in a wooded ravine a few miles from town, killed a female Hudsonian Titmouse (*Parus hudsonicus*). The specimen is now in the collection of Mr. Thomas Osborn of this city. It is, I think, the first occurrence of this species south of Concord, Mass. — C. HART MERRIAM, *New Haven, Conn.*

ANSER ROSSII IN OREGON. — Captain Charles Bendire, U. S. A., in a recent letter to the writer, announces the capture by him of a female of this rare species at Camp Harney, Oregon, "the first and only one," he says, "I have seen killed about here." He states in a later letter that the specimen was shot from a flock of twelve to fifteen individuals, and adds that several parties have since told him that they had killed such small geese before, but supposed them to be the young of the Snow Goose (*Anser hyperboreus*). Captain Bendire, however, believes them to be very rare at that locality, and has never seen any brought in by the numerous hunting parties from the Post. He gives the length of the specimen taken as twenty-two inches, with the body not larger than a Mallard's. The only other United States record for this species that I have seen is California (Coues). — J. A. ALLEN.

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB.

Vol. I. SEPTEMBER, 1876. No. 3.

DECREASE OF BIRDS IN MASSACHUSETTS.

BY J. A. ALLEN.

UNFORTUNATELY very few data are obtainable relative to the birds which inhabited Massachusetts at the time of its first exploration and settlement, nearly three hundred years ago. The smaller species attracted little attention here, as elsewhere in North America, prior to the beginning of the present century. A few notices of the larger species occur in the early accounts of the productions and "commodities" of the State, which are sufficiently definite and trustworthy to show that a few species then common have since been nearly or wholly extirpated, and that a number of others are far less numerous now than they were in the early colonial days.

The number of indigenous species thus far recognized as belonging to the fauna of the State is about three hundred and ten. Two of these (the Great Auk, *Alca impennis*, and the Wild Turkey, *Meleagris gallopavo* var. *occidentalis*) have become wholly extirpated, and two others (the Pinnated Grouse, *Cupidonia cupido*, and the American Swan, *Cygnus americanus*) are so nearly that the former is found at only one or two limited localities and the latter is but a chance visitor. Another (the Brown or Sandhill Crane, *Grus canadensis*), and perhaps a second (the White or Whooping Crane, *Grus americanus*), will be presently shown to have been formerly inhabitants of the State, though extirpated at so early a date that they have not as yet been recognized as belonging to its fauna. That several others have likewise greatly decreased in numbers will be shown in the present article. These are the Red-winged Blackbird (*Agelæus phœniceus*), the Purple Grakle (*Quiscalus purpureus*), the Crow (*Corvus americanus*), the Raven (*Corvus corax*), the Pileated

Woodpecker (*Hylotomus pileatus*), the Red-headed Woodpecker (*Melanerpes erythrocephalus*), the Wild Pigeon (*Ectopistes migratorius*), and the Snow Goose (*Anser hyperboreus*). Besides these might be added, as among those which have also notably decreased, most of the wading and swimming birds, and nearly all of the rapacious species. None of the Ducks and Geese, and probably few of the limicoline species, are probably *one tenth* as numerous now as they were two hundred and fifty years ago, while a great depletion has also occurred amongst the Gulls and Terns. This great diminution, however, is not of course limited to the State of Massachusetts, but likewise characterizes most of the Atlantic States, and some of the older States of the interior.

This reduction has been mainly brought about by what may be considered as inevitable and natural causes, as the removal of the forests, and other changes necessarily attending the agricultural development of the country. Excessive use of the gun, however, has had not a little to do with it. The rapacious species have ever been regarded as the natural enemies of the husbandman, and with them all species that have in any way preyed upon his crops.

In early times premiums were paid by the local governments for the destruction of many of these species, and not without cause. The early records show that such was the abundance of the Blackbirds and Crows that their destruction in large numbers was absolutely necessary, in order to secure more than a small portion of the maize harvest. While most, or at least many, of the towns early encouraged the destruction of the noxious mammals and birds by the offer of rewards therefor, others passed enactments rendering it obligatory upon each householder to destroy a certain number of blackbirds annually, and to bring their heads to the selectmen of the towns to show they had complied with the requisition, on penalty of a small fine for each blackbird lacking to complete the required number.* These means seem to have been immediate, and in some cases disastrous in their results. The traveller, Kalm, relates that Dr. Franklin told him, in 1750, that in consequence of the premiums that had been paid for killing these birds in New England, they had become so nearly extirpated there that they were "very rarely seen, and in few places only." In consequence of this exterminating warfare on the "maize-thieves," the worms that

* See Alonzo Lewis's History of Lynn, p. 186.

preyed upon the grass increased so rapidly that in the summer of 1749 the hay crop was almost wholly cut off by them, the planters being obliged to bring hay from Pennsylvania, and even from England, to Massachusetts, to meet the deficiency caused by the worms.*

In scores of the early enumerations of the birds of New England, and of the Atlantic States generally, the Raven, as well as the Crow, is mentioned. This seems to imply that the Raven, at the time of the first settlement of the country, was more or less common from Virginia to Maine, and that persecution, combined with its natural timidity, has caused its expulsion from the more thickly settled parts of the Eastern States.

That the Pileated Woodpecker (*Hylotomus pileatus*) was once a common inhabitant of all the primitive forests of this State seems to be unquestionable, though absolute proof of the fact may not be available. It still occurs in abundance throughout the older States, wherever the forests remain comparatively undisturbed, while it is well known to quickly retire where its haunts are invaded by the destroying axe of the woodsman. It is also a matter of record that the Red-headed Woodpecker has nearly disappeared, almost within the present generation, from all the region east of the Hudson River, where it was formerly as common, apparently, as it is now in any of the Middle or Western States. In this case, however, the disappearance is without an evident cause. The deforestation of the State has undoubtedly produced a vast decrease among the other species of the *Picidæ*, as well as generally among all the strictly forest birds, through the great restriction of their natural haunts.

The Wild Turkey (*Meleagris gallopavo* var. *occidentalis*), though once a common inhabitant of New England from the more southerly parts of Maine, New Hampshire, and Vermont, southward, long since ceased to exist here in a wild state. Its former abundance in Massachusetts is well attested. I will give here, however, only a single reference indicative of the former great number of these birds in the eastern part of the State. Thomas Morton, who resided here "many years" prior to 1637, says: "Turkies there are, which divers times in great flocks have sallied by our doores; and then a gunne (being commonly in a redinesse,) salutes them with such a courtesie, as makes them take a turne in the Cooke roome.

* Kalm's Travels, Forster's translation, Vol. II, p. 78.

They daunce by the doore so well . . . . I had a Salvage who hath taken out his boy in a morning, and they have brought home their loades about noone. I have asked them what number they found in the woods, who have answered Neent Metawna, which is a thosand that day; the plenty of them is such in those parts. They are easily killed at rooste, because the one being killed, the other sit fast neverthelesse, and this is no bad commodity." * According to John Josselyn, they began early to decline. This author, writing in 1672, says: "I have also seen three score broods of young Turkies on the side of a Marsh, sunning of themselves in a morning betimes, but this was thirty years since, the English and the Indians having now destroyed the breed, so that 't is very rare to meet with a wild Turkie in the Woods; but some of the English bring up great store of the wild kind, which remain about their Houses as tame as ours in England." † This would seem to indicate that the Wild Turkey was often domesticated in Massachusetts, and renders it probable that our domestic stock was by no means wholly derived, as is commonly supposed, from Mexico. Besides Josselyn's statement of their domestication in New England, I have met with other statements to the same effect, and can cite numerous instances of its domestication in Pennsylvania, New Jersey, and Virginia early in the seventeenth century. ‡

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.

The Wild Pigeon (*Ectopistes migratoria*), though by no means yet extirpated from the State, has greatly decreased here in numbers during the present generation, and has not been seen within the present century in nearly so great abundance as in earlier times. Space will allow of reference to but few of the many accounts of its former almost incredible numbers. Morton refers to the presence of "Millions of Turtle doves on the greene boughes; which sate pecking of the ripe pleasant grapes, that were supported

* New English Canaan, pp. 69, 70.

† New Englands Rarities, p. 9.

‡ On the domesticability of the Wild Turkey of the United States, see Bull. Mus. Comp. Zool., Vol. II, pp. 343–352.

by the lusty trees";* and Josselyn speaks of "the Pidgeon, of which there are millions of millions. I have seen a flight of Pidgeons in the spring, and at Michaelmas when they return back Southward for four or five miles, that to my thinking had neither beginning nor ending, length nor breadth, and so thick that I could see no Sun, they join Nest to Nest, and Tree to Tree by their Nests many miles together in Pine-Trees. But of late they are much diminished, the English taking them in Nets."† Their abundance on the Vermont border, in 1741, is thus described by Williams: "The surveyor, Richard Hazen, who ran the line which divides Massachusetts from Vermont, in 1741, gave this account of the appearances he met with to the westward of the Connecticut River. 'For three miles together the Pigeons' nests were so thick that five hundred might have been told on the beech trees at one time; and could they have been counted on the hemlocks, as well, I doubt not but five thousand at one turn round.' The remarks of the first settlers of Vermont," continues Williams, "fully confirm this account. The following relation was given me, by one of the earliest settlers of Clarendon [situated about fifty miles north of the Massachusetts line]: 'The number of Pigeons was immense. Twenty-five nests were frequently to be found on one beech tree. The earth was covered with these trees, and with hemlocks thus loaded with the nests of Pigeons. For an hundred acres together, the ground was covered with their dung, to the depth of two inches. Their noise in the evening was extremely troublesome, and so great that the traveller could not get any sleep where their nests were thick. About an hour after sunrise, they rose in such numbers as to darken the air. When the young Pigeons were grown to a considerable bigness, before they could readily fly, it was common for the settlers to cut down the trees, and gather a horse load in a few minutes.' The settlement of the country has since set bounds to this luxuriance of animal life," and these birds have been driven to other districts.‡ The early history of the country shows that down to about the year 1800 this bird was found in similar abundance, at times at least, all along the Atlantic coast from Virginia to Maine, since which time it has greatly decreased throughout this whole region.

* New English Canaan, p. 60.

† Voyages to New England, p. 99.

‡ Natural and Civil History of Vermont, p. 114.

In all the early notices of the natural productions of New England, the Crane is mentioned among the few birds usually enumerated. Emmons gives the Whooping Crane (*Grus americanus*) in his list of the birds of Massachusetts, but subsequent writers have generally believed without due authority, and of late it has been wholly lost sight of as a bird of the State. That some species of Crane, and in all probability both species, was common in New England in early times, is beyond question. Both the Sandhill and the Whooping Cranes have still a wide range in the interior, passing northward in summer far beyond New England. Neither species has of late been met with north of New Jersey, where the Whooping Crane occurs only as a rare casual visitor. Morton wrote, of "Cranes, there are greate store, that ever more came there at S. Davids day, and not before; that day they never would misse. These doe sometimes eate our corne, and do pay for their presumption well enough; and serveth there in powther, with turnips to supply the place of powthered beefe, and is a goodly bird in a dish, and no discommodity."* This shows that the Crane, and not a Heron, is the bird to which reference is made.

The Swan (*Cygnus americanus*) is in a similar way enumerated by different early writers as formerly a common bird of Massachusetts, though of late years it appears only in our lists of casual visitors. Morton, more explicit than most writers of his time who refer to it, says, in beginning his account of the birds: "And first the Swanne, because shee is the biggest of all the fowles of that Country. There are of them in Merrimack River, and in other parts of the country, greate store at the seasons of the yeare. The flesh is not much desired of by the inhabitants, but the skinnes may be accompted a commodity, fitt for divers uses, both for fethers, and quiles."†

The Great Auk (*Alca impennis*) has recently been added to the list of the birds of the State, on account of the occurrence of its bones in the Indian shell-heaps at Ipswich. There is little reason to doubt, however, that the bird called "Pengwin," or "Penguin," mentioned as found from Cape Cod northward at the time Europeans first visited this coast, really refers to the Great Auk. It figures in all the early enumerations of the birds of New England

* New English Canaan, p. 69.

† Ib., p. 67.

and Newfoundland, while it does not appear in any of the lists referring to the region south of Massachusetts. Captain Bartholomew Gosnold, in 1602, found "Pengwins" on the Massachusetts coast at what he calls "Gilbert's Point," in latitude 41° 40′. He says: "The twentieth, by the ships side we there killed Pengwins and saw many sculls of fish."* The locality, as shown by the context, was between the southeastern point of Cape Cod and Nantucket Island, probably a few miles south of Egg Island. What the bird called "Pengwin" was, that was so often referred to by the early explorers of the New England coast, is clearly evident from the following: Richard Whitbourne, in his account of his voyage to Newfoundland, in 1618, says, "These Penguins are as bigge as Geese, and flie not, for they have but little short wings, & they multiply so infinitely, upon a certaine flat Island [Sable Island], that men drive them from thence upon a boord into their Boates by hundreds at a time; as if God had made the innocencie of so poore a creature to become such an admirable instrument for the sustentation of man."† The same bird is also referred to by Josselyn as the "Wobble." He says: "The Wobble, an ill shaped Fowl, having no long Feathers in their Pinions, which is the reason they cannot fly, not much unlike the Pengwin; they are in the Spring very fat, or rather oyly, but pull'd and garbidgd, and laid to the Fire to roast, they yield not one drop."‡

This bird, so valuable as a "commodity," and whose "innocencie" rendered its capture so easy, doubtless did not long survive on the coast of New England after the establishment here of permanent settlements.

Much might be added, did space allow, respecting the former abundance of Ducks, Geese, Sandpipers, and Plovers. A few extracts on this point from Morton, in his own quaint language, must here suffice. "There are Geese," he says, "of three sorts vize brant Geese, which are pide, and white Geese which are bigger, and gray Geese which are as bigg and bigger, then the tame Geese of England, with black legges, black bills, heads, and necks black; the flesh farre more excellent, then the Geese of England, wilde or tame. . . . . There is of them great abundance. I have had often 1000 before the mouth of my gunne . . . . the fethers of the

* Purchas's Pilgrims, Vol. IV, p. 1648.

† Ib., Vol. IV, p. 1886.

‡ New Englands Rarities, p. 11.

Geese that I have killed in a short time, have paid for all the powther and shott, I have spent in a yeare, and I have fed my doggs with as fatt Geese there, as I have ever fed upon my selfe in England.

"Ducks, there are of three kinds, pide Ducks, gray Ducks, and black Ducks in greate abundance: the most about my habitation were black Ducks: and it was a noted Custome at my howse, to have every mans Duck upon a trencher, and then you will thinke a man was not hardly used. . . . . Teales, there are of two sorts greene winged, and blew winged. . . . . I had plenty in the rivers and ponds about my howse. Widggens there are, and abundance of other water foule. . . . . Sanderlings are a dainty bird, more full bodied than a Snipe, and I was much delighted to feede on them, because they were fatt, and easie to come by, because I went but a stepp or to for them: and I have killed betweene foure and five dozen at a shoot which would loade me home."* Josselyn says of "Sanderlins," he has known "twelve score and above kill'd at two shots." The contrast in respect to the abundance of waterfowl in those early times and now is too apparent to require comment.

The White Pelican (*Pelecanus trachyrhynchus*) is mentioned as a former inhabitant of New Hampshire and other parts of New England, and was doubtless in early times more or less common in Massachusetts, where its presence is now regarded as merely accidental; but two or three recent instances of it here are on record.

ON THE NUMBER OF PRIMARIES IN OSCINES.

BY DR. ELLIOTT COUES, U. S. A.

The number of primaries among oscine birds, whether "nine" or "ten," has been rightly considered an important item in classification, ranking in value with the modifications of the tarsal envelope. Oscine families, and even groups of families, are conveniently distinguished by this character, and as naturally as by the "booting," or scutellation, of the tarsus. In certain families, however, the

* New English Canaan, pp. 67 – 69.

distinction fails to hold. In the *Vireonidæ*, for instance, species of the same genus have indifferently "nine" or "ten" primaries. Thus, *Vireo philadelphicus* and *V. gilvus* are two species so much alike that presence or absence of a spurious "first" primary becomes the readiest means of distinguishing them. Noting this remarkable circumstance in 1865, Professor Baird was led to look more closely into the matter. His results are summed on page 325 of the "Review of American Birds" (see also p. 160); from which it appears that in those Vireos which seem to have only nine primaries, *two* little feathers, distinct in size, shape, and to some extent in position from the general series of primary coverts, are found at the base of the supposed first primary; while in those Vireos with an obvious spurious first primary, making ten in all, only *one* such feather is found. "In all the families of Passeres where the existence of nine primaries is supposed to be characteristic," he continues, "I have invariably found, as far as my examinations have extended, that there were two of the small feathers referred to, while in those of ten primaries but one could be detected." He does not specify how far his examinations extended.

Believing this to be an important matter, which would bear further investigation, I have been led to look into the question, with the most satisfactory results, confirming Professor Baird's observations, and extending them to include every one of the North American families of *Oscines*, excepting, perhaps, *Laniidæ* (in *Collurio*) and *Ampelidæ* (in *Ampelis*). With the possible exception of the two genera specified, I find, on examining numerous genera of all the North American families, that those rated as 10-primaried have but one of these little feathers, while all the rest have two.

The *Alaudidæ*, like the *Vireonidæ*, show a variability of the primaries. In our genus *Eremophila*, in which only nine primaries are developed, there are two of the small feathers above mentioned. The overlying one is exactly like one of the primary coverts; the other, though not very dissimilar, more resembles an abortive primary. In *Alauda arvensis*, where there is a minute but obvious spurious quill, there is but one such feather. In *Galerita cristata*, with a spurious quill about two thirds of an inch long, there is likewise but one.

In clamatorial *Passeres*, perhaps without exception, there are ten fully developed primaries, the first of which may equal or exceed the next in length. In the single North American clamatorial family

Tyrannidæ, I find, as before, only one of these little feathers. In a Woodpecker, remarkable among picarian birds in possessing only nine fully developed primaries, the first being short or spurious, there is also but one.

It seems to be conclusively proven that among the supposed 9-primaried birds, the additional primary, making ten in all, is usually, if not always, found in the second of these little quills which overlie the first fully developed primary; and that it is this same little quill which, in 10-primaried *Oscines*, in *Clamatores*, and probably in other birds, comes to the front and constitutes the first regular primary, — sometimes remaining very short, when it is the so-called "spurious" quill, in other cases lengthening by imperceptible degrees, until it may become the longest one of all. The true nature of the other one of these two little feathers becomes an interesting question. Is it also an abortive primary, as the outer certainly is, or is it one of a series of coverts?

After close examination, I fail to detect any material difference in the *position* of the two; one overlies the other, indeed, as a covert should a primary, but then the two are inserted side by side, both upon the upper side of the sheath of the first fully developed quill. In *size* and *shape*, the two are substantially the same; both being rigid and acuminate, more like remiges than like coverts, and both being abruptly shorter than the true primary coverts. So far, all the evidence favors an hypothesis that both are rudimentary remiges. To offset this, *color* usually points the other way, as in the original case of *Vireo flavifrons*, in which Professor Baird determined the underlying one of the two feathers to be a supposed wanting primary mainly because it was colored like the other primaries, while the overlying one agreed with the coverts in this respect. But it will be obvious that when, as is oftenest the case, the primaries and their coverts are colored alike, the evidence from this source fails altogether; and I find that the testimony from coloration is sometimes the other way. In *Sitta carolinensis*, for example, a 10-primaried bird with spurious first primary, the single remaining little feather is white at base across both webs, like the primaries, the true primary coverts being white only on the inner web. It is true that the overlying one of these little feathers sometimes exactly resembles a true covert; but so, also, does the other one in some cases. In morphological determinations, position and relation of parts are all-important, while mere size, shape, and especially func-

tion, go for very little. One of the two little feathers of 9-primaried birds, as we have seen, certainly corresponds to the spurious or fully developed first primary of 10-primaried; why may not the other be also a primary? It is not conclusive argument to the contrary that the feather in question is never fully developed; nor is it an insuperable objection that the function of the feather is certainly that of a covert. The strongest argument against the view here very guardedly discussed is, that if the feather be not a covert, then the first fully developed primary has none, while the rest have one apiece. While I am far from committing myself to the implied proposition that an oscine bird possesses eleven primaries, I think it proper to bring the case forward as one which will bear looking into, and which will probably remain open until the exact relations between a *remex* and a *tectrix* are ascertained. Should it be determined that an *Oscine* may show traces of *two* suppressed primaries, instead of only the single one which certainly persists in 10-primaried birds, the fact would tend to increase the value already justly set upon number of remiges as a taxonomic factor. It is generally admitted, and it seems to be unquestionable, that here, as in numberless other cases, reduction in number and specialization in function of parts indicates a higher grade of organization; for only the lower birds show the higher aggregate number of remiges, and in none but the higher are the developed primaries ever reduced to nine. A gradual reduction in the number of remiges seems to be directly correlated with that progressive consolidation or compaction of the distal osseous segments of the fore limb which reaches its climax in the wing of the most highly organized birds of the present epoch.

THE YELLOW-BELLIED WOODPECKER (*SPHYRAPICUS VARIUS*).

BY WILLIAM BREWSTER.

THE Mexicans call the Woodpeckers "Carpenteros," and most appropriately, for the chisel-shaped bill not only serves the bird in procuring its daily food, but is also the sole agent employed in digging the wonderful cavities in which the eggs are laid and the young reared. It is probable that, putting aside the universal ene-

my, man, the eggs and young of this family enjoy a more complete immunity from danger than those of any other. The cunning crow and noisy jay, both ever on the alert for a frolic after bird's eggs, are here balked; while rain cannot enter, and the mink, weazel, and other noxious animals find their keen noses of little avail. Snakes may, and doubtless do sometimes enter the holes of the larger species, but even they probably bestow more of their attentions on ground and bush building birds. All the endless little artistic contrivances for concealment so artfully employed by other birds in the construction of their nests are here needless, and consequently ignored. In view of the manifest advantages attendant upon this mode of nidification, it is a matter of no little surprise that Woodpeckers are not more numerous, especially when it is taken into consideration that the habit of roosting in holes at all seasons of the year must protect the adults, as well as young, from many nocturnal dangers. Lack of suitable opportunities for nesting, or obtaining food, may doubtless be taken as explanatory of the comparative fewness of these birds in the older settled sections. In fact, the wilderness is the true home of the Woodpeckers, and in all primitive forest regions they abound. There Nature reigns supreme, and in defiance of artificial laws and cultivated ideas of sylvan beauty, allows her woods to fill with the decaying forms of her dead subjects, — huge moss-clad trunks, picturesque in shape, and by their grim, gaunt aspect adding wildness to an already picturesque scene. In such congenial haunts these birds find all their wants supplied, food being plenty and easily obtained, and the selection of a nesting site a matter of no difficulty. Taking the seven commoner New England species, four — *Hylotomus pileatus*, *Sphyrapicus varius*, and the two species of *Picoides* — will be found almost exclusively in the forest; while of the remaining three, the two species of *Picus* are decidedly more partial to the woods than the cultivated districts. *Colaptes* alone seems to have no preferences, and is no more abundant in the Northern forests than on treeless Nantucket, in which latter place it makes the best of circumstances and drills its holes in gate-posts and ice-houses.

Throughout the White Mountains of New Hampshire, and in most sections of Northern Maine, the Yellow-bellied Woodpeckers outnumber all the other species in the summer season. They arrive from the South, where they spend the winter, from the middle to the last of April, and, pairing being soon effected, commence at once the excavation of their nests. The trees usually selected are

large dead birches, and a decided preference is manifested for the vicinity of water, though some nests occur on high ground in the interior of the woods, but never so abundantly there as along the margin of rivers and lakes. Both sexes work alternately, relieving each other at frequent intervals, the bird not employed usually clinging near the hole and encouraging its toiling mate by an occasional low cry. With the deepening of the hole arises the necessity for increased labor, as the rapidly accumulating débris must be removed, and the bird now appears at frequent intervals at the entrance, and, dropping its mouthful of chips, returns to its work. A week or more is occupied in the completion of the nest, the time varying considerably with the relative hardness of the wood. A small quantity of the finer chips are left at the bottom to serve as a bed for the eggs. The birds now take a vacation, roaming through the woods together in search of food, though frequently one or the other remains near the nesting-place to guard the premises. The female commences laying about the 20th of May, in ordinary seasons, and deposits from five to seven eggs. The labor of incubation, like all other duties, is shared equally by the two sexes. A short sketch, founded upon an extract from the writer's journal of a day's experience on Umbagog Lake, Maine, may perhaps give the reader a better insight into the nidification of these birds than would a more formal style of description, and it is hoped will convey a sufficiently intelligible idea of the surroundings.

"Disembarking from the steamer near the head of the lake, the dense fog, which had all the morning prevailed, began to break, riven asunder by a slight breeze that had arisen, and drifting off in heavy masses, dissolved under the influence of the sun, disappearing, no one knows whither, as the ice had disappeared from these same waters earlier in the spring. And now a dozen lovely views burst into sight. Towering mountain-summits, strips of heavily wooded shore, long stretches of bright blue water rippling merrily under the influence of the rising breeze, — all these appearing and disappearing through rents and vistas of floating vapor, went to make up a constantly shifting panorama of exceeding loveliness. But nearly all of Nature's best effects are transient, and, the change from gloomy cloudiness to the bright, clear aspect of a June morning being soon effected, we found ourselves floating near the middle of a broad sheet of water, some four miles long by two in breadth, known in local parlance as the 'arm of the lake.' This fine ex-

panse, irregularly oblong in shape, resembles, as do most of the Maine lakes, a gigantic amphitheatre walled in on every side by distant mountains, which slope gradually from their base to the water's edge, while the unbroken forest which everywhere clothes the surface of the country extends down to the very shore, looking in the distance like a carpet of variegated green, the lighter colors of the foliage of the hard-wood trees contrasting beautifully with the sombre darkness of the spruce and fir. Not a single clearing or other sign of man's interference occurs in any direction to mar the perfect setting of this forest gem. Even the little steamer, just disappearing behind a distant point, looks as if born to the surroundings, and it requires no great stretch of the imagination to fancy her a gigantic water-fowl ready to dive beneath the surface, like the loon that has just risen in her wake. But these and similar reflections were somewhat abruptly broken by the guide, who, having completed the arrangement of the luggage in the boat, commenced paddling vigorously towards the western shore, where was to be the scene of our labors.

"At this place the Androscoggin River leaves the lake, and its banks being somewhat low at the point of *débouchure*, the level country adjacent for a half-mile or more back is periodically overflowed. The water, kept at a high point by dams on the river below, flows back into the forest, and the trees, killed in former years by similar inundations, stand in grim array like an army of stricken giants. That such a perfect paradise for the Woodpeckers had not been neglected was speedily manifest as we entered this place, where several species of varying size, from the great *Hylotomus pileatus* down to the trim little Downy, were soon observed. Most abundant of all, however, was the handsome *Sphyrapicus varius*, several individuals being almost constantly in sight. Commencing our search for nests, we soon found ourselves confused by the very abundance of opportunities, for not only was every tree dead and rotten, but nearly every one was perforated by a greater or less number of Woodpecker's holes. The method quickly adopted as the only practicable one was to paddle about among the trees, and, striking forcibly with an axe all that contained likely looking holes, watch for the appearance of the possible occupant. Proceeding in this way, multitudes of Swallows (*Tachycineta bicolor*) and Grakles (*Quiscalus purpureus*) were dislodged, the former occupying deserted nests of the smaller Woodpeckers, and the latter natural cavities

and deserted holes of the Golden-winged (*Colaptes auratus*) and Pileated (*Hylotomus pileatus*) Woodpeckers. At length, in response to a couple of sharp blows, the beautiful crimson-fronted head of a male *Sphyrapicus* appeared in the mouth of its hole, and the bird, after eying us curiously for a moment, launched out into the air and alighted on a neighboring tree. A few moments' consultation decided that the tree must be felled, as the hole was at least forty feet up, and the trunk so rotten that it was manifestly impossible to ascend with safety. All the Maine guides are adepts with the axe, and on this occasion but a short time elapsed before the already tottering trunk began to show signs of giving way. Both birds (for the female had appeared at the first alarm) repeatedly entered the hole, and clung against the now quivering trunk, uttering their peculiar snarling cry. A few more vigorous blows and the huge tree began to decline, then, gathering momentum, descended with fearful force, burying its full length for a moment beneath the surface and half filling the boat with water. So nicely had its fall been calculated that it came down in clear water exactly between two other trunks which stood within six feet of each other, and without touching either. To cut out the hole was now a matter of little difficulty, and to our delight we found the three eggs which it contained entirely uninjured. Subsequent experiments of a similar nature were, however, less successful.

"Continuing our search, we soon discovered another nest in a tall dead birch, the hole from which the bird emerged being at least fifty feet above the water. This tree was, after careful inspection, pronounced climbable, and the guide, with characteristic coolness, filling and lighting his short pipe, commenced to 'swarm' up, puffing out dense clouds of smoke as he ascended. Reaching the hole, he quickly and adroitly attached a rope to the trunk, and, tying a loop in the end to form a stirrup, stood in this and cut out the cavity with his axe. This nest contained six perfectly fresh eggs, all of which were brought down in safety. Proceeding in this way, five more nests were discovered, but only two sets of eggs secured, as three of the trees had to be felled, and in each instance with disastrous results."

All nests examined upon this occasion were of uniform gourd-like shape, with the sides very smoothly and evenly chiselled. They averaged about fourteen inches in depth by five in diameter at the widest point, while the diameter of the exterior hole varied from

1.25 to 1.60 inches. So small, indeed, was this entrance in proportion to the size of the bird, that in many cases they were obliged to struggle violently for several seconds in either going out or in. The nests in most instances were very easily discovered, as the bird was almost always in the immediate vicinity, and if the tree was approached would fly to the hole and utter a few low calls, which would bring out its sitting mate, when both would pass to and from the spot, emitting notes of anxiety and alarm. The bird not employed in incubation has also a peculiar habit of clinging to the trunk just below the hole, in a perfectly motionless and strikingly pensive attitude, apparently looking in, though from the conformation of the interior it would be impossible for it to see its mate or eggs. In this position it will remain without moving for many minutes at a time. The amount of solicitude evinced varies considerably with different individuals, some pairs showing the most active concern, and keeping up their cries continually, while others take matters more coolly, removing to the nearest tree and watching in total silence the demolition of their home. In nearly every instance, however, when the sitting bird is first disturbed, it utters a cry which almost immediately brings up its mate. Watching once a nest for an hour or two, I remarked that the birds relieved each other in the labors of incubation at intervals averaging about half an hour each. The one that had been absent would alight just below the hole, and, uttering a low *yew-ick, yew-ick*, its mate would appear from within, when, after the interchange of a few notes of endearment, the sitting bird would fly off and the other instantly enter the hole.

One very singular fact which I have noticed is that in nearly every tree are *several* newly finished cavities. In one case four were cut open which had evidently been freshly made, all of which were as neatly and completely excavated as the one that contained the eggs. In addition to these there are often numerous others, which by the dark color of the wood within are shown to have been made in previous years. In one tree no less than fifteen holes were counted, all of which were dug down to the usual depth. Yet in no case have I found more than one inhabited, or noticed in the vicinity any birds other than the pair to which the eggs belonged. These holes for the most part enter the tree on the same side, one above the other, but in some cases the whole trunk is perforated on *all* sides and at irregular intervals. Possibly

they are intended to accommodate the young after they have left the nest. As an example of exceptional choice of situation, one nest was found in a perfectly live poplar-tree of large size. The birds had pierced a somewhat irregular hole in the trunk, where a limb had rotted out, and, following the partially decayed wood into the very heart of the tree, had excavated a cavity to the depth of about twelve inches, which, when finished, was surrounded on all sides by healthy wood of at least six inches average thickness. The entrance to this nest was unusually low, being not over eight feet above the water. The average elevation I have found to be at least forty feet, and many nests occur considerably higher. The four sets of eggs taken on the occasion previously referred to are all apparently complete, and vary in number of eggs from five to seven, the set of five being the furthest advanced in incubation. Six are probably laid as a rule. The eggs vary considerably in shape, some being oblong and others decidedly elliptical. They average .85 in length by .60 in breadth. As with all the Woodpeckers, they are pure white, but there is much less of that fine polish than in eggs of the other species that I have examined.

When fresh, and before being blown, they resemble very closely, both in color and size, average eggs of the Martin (*Progne purpurea*). After the young have hatched, the habits of the Yellow-bellied Woodpecker change. From an humble delver after worms and larvæ, it rises to the proud independence of a Flycatcher, taking its prey on wing as unerringly as the best marksman of them all. From its perch on the spire of some tall stub it makes a succession of rapid sorties after its abundant victims, and then flies off to its nest with bill and mouth crammed full of insects, principally large *Diptera*. In this way both parents labor incessantly to provide for their hungry brood. The young leave the nest in July, and for a long time the brood remains together, being still fed by the parents. They are very playful, sporting about the tree-trunks and chasing one another continually. Both young and old utter most frequently a low snarling cry that bears no very distant resemblance to the *mew* of the Catbird. The adults have also two other notes, — one, already spoken of, when the opposite sexes meet; the other a clear, ringing *cleur*, repeated five or six times in succession, and heard, I think, only in the spring. The habit alluded to in Baird, Brewer, and Ridgway's "Birds of North America" (Vol. II, p. 541), of "drumming" on the tree-

trunks, is a very noticeable one, but by no means confined to this species. A very dry, resonant limb is usually selected, and the bird will "drum" in the same spot many times in succession. Frequently a rival appears, and a battle ends the performance, but oftener the female answers the call and joins her anxious mate. This habit appears to be perfectly analogous in motive to the well-known performance of the Ruffed Grouse, and is performed only in the spring before the eggs are laid. Both young and old leave for the South in October.

Recent Literature.

Ornithology of the Wheeler Expeditions. — This important Memoir,* consisting of three hundred and seventy-four quarto pages and fifteen chromo-lithographic plates, forms Chapter III of Volume V of the Reports of Surveys West of the One Hundredth Meridian, and is devoted exclusively to a systematic consideration of the ornithological material collected by the expeditions during the seasons of 1871 to 1874 inclusive, by Mr. H. W. Henshaw, Dr. H. C. Yarrow, Mr. C. E. Aiken, and other gentlemen connected with the survey. The region investigated includes portions of Utah, Nevada, California, Colorado, Arizona, and New Mexico. Much of the matter was originally published in 1874 in a preliminary report of 148 pages.† The results of the field work of 1874 are, however, here presented in detail for the first time, and furnish some of the most interesting data in the volume. The text is written by Mr. Henshaw, and does credit to that gentleman's well-known proficiency as an ornithologist. The classification adopted is, for the land-birds, that of Baird, Brewer, and Ridgway's "Birds of North America," while for the water-birds Mr. Henshaw follows Dr. Coues's check-list. The plates, though well drawn, are not all quite what we should like to see them in point of coloration.

Some few new and interesting arrangements of species and varieties are original with the author, as in the *Juncos*, which are divided into three

* Report upon the Ornithological Collections made during the Years 1871, 1872, 1873, and 1874. By H. W. Henshaw. Chapter III, Vol. V, of the Reports of the Geographical and Geological Explorations and Surveys West of the One Hundredth Meridian, in Charge of Lt. Geo. M. Wheeler. Published by Authority of the Secretary of War. 4to. pp. 374. Washington: Government Printing-Office. 1875.

† Report upon Ornithological Specimens collected in the Years 1871, 1872, and 1873.

species, each having a single variety in the United States. The synonymatic lists given include only such references as pertain to the region traversed by the survey, thereby divesting the work of any unnecessary cumbersomeness. The biographical notices are excellent, and bear the impress of vigorous and original thought, founded upon careful and intelligent study in the field. Indeed, so thoroughly good are they that we cannot but wish that they were in some cases more extended; nevertheless, we have valuable descriptions of the notes, habits, and nesting of many rare and hitherto little-known species; and when it is taken into account that in most cases the expeditions were unable to get fairly at work before midsummer, it is remarkable that so much was accomplished. As a contribution to ornithology this work derives its chief value from the additions it furnishes to our knowledge of the geographical range of North American birds, the assigned limits of many species being considerably extended, and nine entirely new to our fauna added. It is to be hoped that "retrenchment and reform" will not in any way cripple the continued good work that we expect from the Wheeler Survey in the future. — W. B.

FIELD AND FOREST.* — With the number for July, this journal begins its second volume, considerably enlarged and improved. The articles are varied and all valuable contributions to science, and we wish "Field and Forest" the success its merits so well deserve. The single article relating to ornithology brings forward quite novel facts in the history of Wilson's Phalarope, which are unique in the history of our birds, and should engage further attention. Mr. Kumlien describes the female as being not only "richer dressed" than the male, but as leaving the duties of incubation wholly to the male, who in the breeding season has "invariably the naked and wrinkled belly, characteristic of incubating birds," while the female shows nothing of the kind. He also represents the female as making the advances to the male during the pairing-season, and says it is not unusual to "see two females pursuing one male," instead of the reverse, as is usually the case with other birds. If no mistake has been made, these facts are among the most interesting in the annals of American ornithology. — J. A. A.

THE PORTLAND TERN. — Mr. William Brewster has recently published his views respecting the character of this recently described Tern.† Hav-

* Field and Forest: a Monthly Journal devoted to the Natural Sciences. Vol. II, No. 1, July, 1876. 8vo, 20 pp. Washington, 1876, Charles R. Dodge, Editor. Subscription price, $1.00 a year.

† Some Additional Light on the so-called *Sterna portlandica*, Ridgway. By William Brewster. Annals of the Lyc. Nat. Hist., N. Y., Vol. XI, pp. 200–207. [Published February, 1876.]

ing given the subject careful attention, he announces his conclusion that this interesting form is only an unusual developmental phase of the Arctic Tern (*Sterna macrura*), corresponding to a similar but heretofore little-known (in this country at least) stage of the common Tern (*T. hirundo*). Mr. Brewster has gone carefully into a discussion of the details of the question, and seems to give good grounds for his position. — J. A. A.

The Birds of Ritchie County, West Virginia. — Not long since, the same author published a list of the birds observed by him in West Virginia,* based on the joint labors of himself, Messrs. Ruthven Deane, and Ernest Ingersoll during the interval between April 25 and May 9, 1874. The list includes one hundred species, with valuable field-notes, and forms an important addition to our faunal literature. — J. A. A.

Birds of New England. — This enumeration by Dr. Brewer,† of three hundred and thirty-six species, will prove useful in showing the recent additions to the avian fauna of New England, the presumed correct distribution of the species inhabiting that section, and that certain species accredited to it have never been obtained within its limits. Twenty-nine belonging to the latter class are expunged, the majority, we think, with good reason ; but does not previous record show that *Quiscalus major*, *Corvus ossifragus*, *Ægialitis wilsonius*, *Sula fiber*,‡ and *Nettion crecca* § can at least be retained as birds that have occurred here?

Though referring to and correcting many of the errors of earlier lists, we find no credit given to some recent authorities from which it is evident facts were gleaned. We regret to find, too, that this, our latest corrected treatise on the subject, omits to give the "manner and character" of the "presence" of several species with quite the exactness that the record warrants.

The following, for instance, classed as *summer* residents (it being stated of *Corvus americanus* that "a few winter"), are constant residents in Southern New England, and one or two probably also in Northern New England, namely, *Turdus migratorius*, *Corvus americanus*, *Picus villosus*, *Otus wilsonianus*, *Brachyotus cassini*, *Nyctale acadica*, *Nisus fuscus*. The following, classed as summer residents (presumably of all New Eng-

* Some Observations on the Birds of Ritchie County, West Virginia. By William Brewster. Annals of the Lyc. Nat. Hist., N. Y., Vol. XI, pp. 129–146. [Published June, 1875.]

† Catalogue of the Birds of New England, with brief Notes indicating the Manner and Character of their Presence ; with a List of Species included in previous Catalogues believed to have been wrongly classed as Birds of New England. By T. M. Brewer. Proc. Boston Soc. Nat. Hist., Vol. XVII, pp. 436–454, July, 1875.

‡ See Linsley, Amer. Journ. Sci. and Arts, Vol. XLIV, 1843.

§ Bryant, Proc. Bost. Nat. Hist., Vol. V, p. 195.

land), seldom reach Northern New England : *Cistothorius stellaris*, *Vireo gilvus*, *V. flavifrons*, *V. noveboracensis*, *Spizella pusilla*, *Zenædura carolinensis;* nor is the latter "rare." The following are not "rare" at Saybrook, Conn., but breed there regularly in more or less numbers, and probably occur all along the Sound shore west of the mouth of the Connecticut River : *Helmitherus vermivorus*, *Helminthophaga pinus*, *Icteria virens*, *Myiodioctes mitratus*, as do also *Siurus ludovicianus*, and *Myiarchus crinitus ;* the latter being given as a "rare summer resident" (of New England). The next two, *Helminthophaga chrysoptera* and *Coturniculus passerinus*, cannot be called "rare" summer residents of Southern New England, as they breed in numbers regularly, especially the latter. The three following are generally common, and breed regularly in Northern New England, not "rare" summer residents, as marked in the list : *Perissoglossa tigrina*, *Geothylpis philadelphia*, *Contopus borealis*. The following should be marked, not as "summer residents" or "visitants," but rather as visitors in spring and fall : *Numenius longirostris*, *Coturnicops* (*Porzana*) *noveboracensis*, and *Fulica americana*. *Picoides arcticus* and *P. americanus* are not winter visitants only, to all New England, but are residents in Northern New England, and rare winter visitants to Southern New England. *Regulus satrapa* winters in numbers in Southern New England, if not also in Northern New England, where it is nearly resident. *Anthus ludovicianus* is a spring and fall visitant in New England, not "winter." *Junco hyemalis* hardly winters in Northern New England, where it is merely a summer resident. *Ectopistes migratoria* is a regular summer resident of quite all New England, though more common in some parts than others. *Ortyx virginianus* does not occur in Northern New England. *Astur atricapillus* is resident in Northern New England, winter visitant in Southern New England. *Micropalama himantopus* is migratory along the whole New England coast.

The following should as certainly have the asterisk prefixed as any already so marked : *Mimus polyglottus*, *Ampelis garrulus*, *Euspiza americana*, *Xanthocephalus icterocephalus*, *Centurus carolinus*, *Hierofalco islandicus*, *Cupidonia cupido*, *Meleagris gallopavo*, *Himantopus nigricollis*, *Ibis ordii*, *Herodias egretta*, *Florida cærulea*, *Garzetta candidissima*, *Gallinula galeata*, *Cygnus americanus*, *Anser hyperboreus*, *Anser gambelli*, *Camptolæmus labradorius*, *Gelochelidon aranea*.

The specimen of *Tyrannus verticalis* was shot neither at Plympton nor Pembroke, Me., but at Elliot, by Mr. George E. Brown.

In the matter of *Macrorhamphus scolopaceus*, Mr. Brewster was wrongly understood, as he informs us he finds it and *griseus in company*. Two varieties each of *Quiscalus*, *Hierofalco*, and *Archibuteo* are given as found in New England, and also an apocryphal little bird we are surprised to see brought to light again, namely, *Myiodioctes minutus*. — H. A. P.

General Notes.

The Philadelphia Vireo in New England. — The increase and decrease of certain species in given localities is becoming a subject of much interest, instances of which are cited every year. A single specimen may be captured in a locality far from the usual habitat of its species, where it may not be seen again for years, or it may gradually increase and later be found as a regular autumn migrant, though not detected in the spring, and *vice versa*. The above-named species was first given as a New England bird by Prof. Charles E. Hamlin, based upon a specimen which he captured at Waterville, Me., May 21, 1863. For the next nine years it escaped the notice of our collectors, when during a collecting trip at the Umbagog Lake, Maine, I procured a specimen on June 3, 1872, and on the following day, in company with Mr. Wm. Brewster, obtained two more. In a communication from Geo. A. Boardman, Esq., he states that on June 2, 1872, he obtained a female at Calais, Me., the only one, however, which he has met with. We did not hear of the Vireo again until September, 1874, when Mr. Brewster took six specimens at Lake Umbagog. On September 11, 1875, I procured a female at the foot of Ripogenus Lake, a beautiful sheet of water situated about one hundred and fifty miles northeast from the Umbagog Lake, and observed two others. There was an immense migration of Warblers, Sparrows, and other species on that morning, and the specimen taken was in company with the Red-eyed and Yellow-throated Vireos.*

All these specimens were undoubtedly on or near their breeding-grounds, and although but few pass through the coast States, yet it is strange that the species should have escaped the notice of the many watchful collectors of the present day until Mr. Brewster procured a specimen in Cambridge, Mass., on September 7, 1875 (see Bulletin No. 1, p. 19). Three specimens were taken during the first week of June, 1876, at Lake Umbagog, in which locality it now must be considered as a summer resident. — Ruthven Deane.

Geographical Variation in the Number and Size of the Eggs of Birds. — It is not surprising that the now well-known law of geographical variation in size among birds should find expression in the eggs of birds as well as in the birds themselves. I have only recently, however, met with satisfactory proof of the fact, for which proof I am indebted to the kindness of Captain Charles Bendire, U. S. A. Under date of May 21 (1876), Captain Bendire wrote me as follows: "The geographical variation in size among North American birds holds true also in respect to

* This is the most northern locality in Maine at which I have known the Yellow-throated Vireo to occur.

their eggs. I find, for instance, in *Icteria viridis* var. *longicaudata*, that in the vicinity of Fort Lapham, Idaho Territory, where the species breeds abundantly, that they almost invariably lay four eggs ; while near Tucson, Arizona, where I took at least eighty of their nests, they lay only three, and the size of the eggs is so very much smaller, in some cases fully one half, that they might easily be taken for eggs of an entirely different species. I find that the farther south you go, the eggs of the same species become smaller, and the number laid as a full nest complement is also less, as a rule. Of course there are some exceptions." He says later, in reply to further inquiries from me respecting this matter, that his attention was first drawn to this subject by the disparity in size and number of the eggs of this species at northern and southern localities. "Of course," he continues, "there is considerable variation in size even in the same localities when a number of sets of the same species are compared, but the assertion that in the North the eggs, as well as the birds, average larger than in the South is perfectly correct. I have abundant material in my own collection to prove this conclusively. Another illustration of the difference in size of eggs from points North and South is the following : Six eggs of *Molothrus pecoris* from the New England States measure as follows : (1) .99 × .65 ; (2) .97 × .67 ; (3) .88 × .67 ; (4) .90 × .68 ; (5) .85 × .64 ; (6) .76 × .63. Ten specimens of *M. pecoris* var. *obscurus*, from Arizona, measure as follows : (1) .82 × .60 ; (2) .81 × .59 ; (3) .73 × .65 ; (4) .75 × .61 ; (5) .74 × .58 ; (6) .73 × .58 ; (7) .72 × .58 ; (8) .70 × .58 ; (9) .70 × .56 ; (10) .67 × .51." This gives an average of .90 × .66 for the New England specimens, and .74 × .59 for those from Arizona.

The greater part of Captain Bendire's collection being now stored in St. Louis, while he is himself stationed in Oregon, prevents the presentation by him of other comparative measurements with which to further substantiate the above-given generalization of the smaller size of the eggs of birds of the same species at southern as compared with northern localities. His other statement of the smaller number of eggs laid at the southward is also one of great importance, and touches a point respecting which little has as yet been written.

Mr. C. J. Maynard, in his "Birds of Florida" (p. 24), refers to the "singular fact" that many species lay a smaller number of eggs at the South than at the North, and informs me that he has also noticed the fact of their smaller size at the southward. — J. A. Allen.

The Nest and Eggs of Traill's Flycatcher, as observed in Maine. — The structure of the nest, its situation, and the eggs of this species (*Empidonax traillii*), as found in the above-named State, are all quite different from Mr. H. W. Henshaw's description of them, as given in the first number of this "Bulletin." The nest is built between the upright shoots of low bushes, from one to five feet from the ground, and is loosely constructed of grasses throughout, including the lining. It is a much less compact nest even than that of the Indigo Bird, though perhaps

smaller in the average. The eggs are of a pale creamy white, with reddish-brown dots, spots, or blotches of two shades, disposed chiefly about the larger end. This brief account is based on specimens obtained about Lake Umbagog, Upton, and at Bethel, Maine, by Messrs. William Brewster and H. B. Bailey, and at Gorham, N. H., by Messrs. George Welch and Duxbury Moon. I have lately seen nests and eggs of both *E. acadicus* and *E. traillii* collected at Columbus, Ohio, by Dr. J. M. Wheaton. Singularly enough, that of the former (*E. acadicus*) bears a close resemblance in its structure to that of Maine specimens of Traill's Flycatcher, while the compact felted character of the latter (*E. traillii*) is entirely unlike any nest of this species from the Canadian fauna. The eggs of the Ohio nests are in each case of a decided buff color as compared with Northern ones.

In this connection I would ask if it has been observed whether the ground color and markings of the eggs of species breeding in northern latitudes are of a lighter tint than those of the same kind laid in austral limits, — that is, does intensity of color hold good in eggs as it does in plumage? — H. A. PURDIE.

SINGULAR FOOD OF THE LEAST BITTERN. — Upon examining the stomach of a male Least Bittern (*Ardetta exilis*) shot at Belmont, Mass., May 11, 1876, I found that organ fairly crammed with white, clean *cotton wool*. The greater portion had evidently been swallowed in one lump, but there were several smaller flakes. Among them were several slender white worms, and many others of a similar appearance were coiled around the intestines. Under such conditions one would hardly expect the post-prandial sensations of the bird to be of an agreeable nature, but the bird seemed to be in good health and spirits. — WILLIAM BREWSTER.

INTELLIGENCE OF A CROW. — A tame Crow (*Corvus americanus*) in my possession has repeatedly amused me by the novel method he adopts to rid himself of parasites. For this purpose he deliberately takes his stand upon an ant-mound, and permits the ants to crawl over him and carry away the troublesome vermin. The operation seems mutually agreeable to all parties, the ants quickly seizing upon the parasites and bearing them away. I have also noticed the same habit in another tame Crow that I formerly had in my possession. — ABBOTT M. FRAZAR.

THE GREAT CAROLINA WREN IN MASSACHUSETTS. — The Great Carolina Wren (*Thryothorus ludovicianus*) has not previously been recorded as a visitor to Massachusetts, but there are at present two apparently passing the summer in a small wooded swamp near Boston. It is believed that they have arrived since the 4th of July, soon after which time my attention was attracted by their loud notes, which I immediately recognized, through their general likeness to the notes of other Wrens, and the descriptions of Wilson and Audubon. It is further believed that they are now building, or have recently built, their nest, since they remain persistently in one neighborhood, the female being rarely seen, though the male often visits the shrubbery about the house. — H. D. MINOT.

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB.

Vol. I. NOVEMBER, 1876. No. 4.

OUR PRESENT KNOWLEDGE OF THE NIDIFICATION OF THE AMERICAN KINGLETS.

BY ERNEST INGERSOLL.

In the hope of eliciting from some of the many readers of The Bulletin further information concerning the breeding habits of the American Kinglets, or at least of putting them upon the alert for further information, I have deemed it well to bring together what is at present known respecting the nidification of these birds.

Of the breeding of the Ruby-crowned Kinglet (*Regulus calendula*, Licht.) not much is known, although the bird is found, at different seasons, in all parts of North America. In the Rocky Mountains it breeds among the most elevated forests. Mr. J. A. Allen found young in July near Mount Lincoln, Col.; Mr. Ridgway gives it as breeding among the peaks of Northern Utah; and Mr. Henshaw in Arizona. It is also supposed to breed in Northern New Jersey, in Western New York, in Maine, and in the islands of the Bay of Fundy. In Western New York a nest which contained young was reported to have been built in the fork of a tree. Males and females have both been observed in summer about Chestnut Hill, Philadelphia, and Mr. Gentry thinks it nests on the wooded heights along the Wissahickon. Dr. Coues, in his "Birds of the Northwest," considers that he has sufficient evidence to show a breeding-range throughout the mountains of the West, from nine thousand feet upward, thence trending eastward along the northern boundary of the United States to Maine and Labrador, and probably sending a spur southward along the Alleghany Mountains. Northwestward it reaches Alaska.

The most satisfactory information is furnished by Mr. J. H. Batty, who found a nest near the Buffalo Mountains in Colorado, on June 21, 1873, which contained five young and one egg. The nest was on the branch of a spruce-tree, about fifteen feet from the ground, and was so large "that it could scarcely be got into a good-sized coffee-cup." It is described as "a loosely woven mass of hair and feathers, mixed with moss and some short bits of straw." The egg, Mr. Batty tells me, was very much like that of the common House Wren, but a little lighter in color. Both parents were assiduously bringing larvæ of insects to the young, whose appetites were unappeasable. Mr. Henry W. Henshaw also reports finding a neatly finished nest on a mountain near Fort Garland, Col. It was built on a low branch of a pine, and the male was singing directly overhead; but although he waited some time, Mr. Henshaw did not see the female. "The nest was a somewhat bulky structure, very large for the size of the bird, externally composed of strips of bark, and lined thickly with feathers of the Grouse." Of the eggs of this Kinglet nothing further is known.

Little more can be said in respect to the Golden-crested Kinglet (*Regulus satrapa*, Licht.). Its range is nearly as extensive, but more northerly; it does not descend in winter beyond Mexico. Nothing is known with certainty of its breeding anywhere in the United States, although it may be found to do so in the northern mountainous portions. Mr. Thomas G. Gentry is confident that it nidificates in cavities in the tall trees which crown the heights of Eastern Pennsylvania, despite the generally accepted notion that it follows its foreign cousin in building a pensile nest and laying white eggs, finely sprinkled with buff dots, in size about equal to those of Humming-birds. It has also been inferred that this Kinglet raises two broods in a season. Mr. Nuttall and Dr. Cooper both found it feeding full-fledged young on the Columbia River, on May 21; and Audubon observed the same thing in Labrador in August. Mr. Maynard found it common at Lake Umbagog, Me., in June; he says it breeds there, and that, judging from the condition of female specimens dissected, it deposits its eggs about June 1. Several pairs were found in the thick woods there, but no nests could be discovered; he thought they built, probably, in the long hanging-moss so abundant on the trees in those northern forests. Mr. Herrick puts it down positively as breeding on the island of Grand Menan, and Dr. Brewer in Maine. Mr. Allen informs me that he met with

young, attended by the parents, the third week in August, 1876, on Mount Monadnock, New Hampshire, which he has no doubt were hatched in the immediate vicinity. Mr. J. K. Lord states that these birds were abundant on Vancouver's Island and the adjacent coast, where he found them building pensile nests suspended from the tips of high pine branches, in which they laid from five to seven eggs. He does not describe the eggs, which was hardly to be expected, perhaps, considering the half-use he seems to have made of his opportunities.

Herr F. W. Baedeker has figured the egg in the "Journal für Ornithologie" (1856, p. 33, Pl. I, Fig. 8), and also in his large work on the eggs of the birds of Europe. Dr. Coues observes, in a private communication to me, "The plate indicates a rather roundish egg, though the two specimens figured differ noticeably in size and shape; they are spoken of in the text as 'niedliche kleine Eirchen mit lehmgelben ben Flekschen auf weissen Grunde,' and compared with those of other species illustrated on the same plate."

Regulus cuvieri, described by Audubon from a specimen taken near the banks of the Schuylkill River, has remained unknown to ornithologists ever since.

NESTING HABITS OF THE CALIFORNIAN HOUSE WREN (*TROGLODYTES AEDON* VAR. *PARKMANNI*).

BY DR. J. G. COOPER.

THE little fellows who require such a triple scientific name, according to the latest fashion in nomenclature, have this year exhibited in my garden a remarkable characteristic or habit, which, if not confined to the western race, has never been recorded of those individuals found in the northeastern section of the Union, though it may be looked for in the longer summers of the southern and interior States.

The well-known fact that during the season of incubation the males usually busy themselves in building several nests in places where they seem quite unnecessary, has always been attributed to a sort of whim or desire for occupation, or to a judicious foresight; providing thus against a possible destruction of the first nest.

But it seems that here, at least, one extra nest is sometimes used for the purpose of raising an additional family by a single pair of wrens simultaneously with the first brood! This would scarcely appear credible if not made certain by close observation of the pair during the whole breeding season, while no others were seen within a circuit of a quarter of a mile. Like all other summer visitors, these birds arrived much later this year than last, none appearing until about April 20, though some winter within one hundred miles to the southward. Whether the same pair returned, mentioned to have built here last year (in my article in the "American Naturalist" for February, 1876, p. 90), is uncertain. I believe that one of that pair was killed by a cat, and the brood of young were certainly destroyed, June 14, by an unusually late and heavy rain, which ran from the eaves of my house into their box, after which the remaining parent bird disappeared. The present pair, however, lost no time in building, and, as if suspicious of their former home, built first in a house on the top of a post twelve feet high, which was occupied by a pair of *Hirundo bicolor* last summer. As soon as the nest was finished, the male began to build another in the old residence, which I had moved to a safer place, where rain could not reach it. The female rarely assisted in this work, though I occasionally saw both there, and in due time the second nest was finished. Soon after the young in the first nest were hatched, and although needing much attention, the old birds still frequented the new nest, and I began to suspect that one of them was sitting on eggs there. This suspicion was soon verified by hearing the young, and seeing them fed. In this case each parent must have been sitting at the same time on a nest, perhaps taking turns, during the week that elapsed before the first hatching.

The day after the first brood of six left its house, they reappeared at evening under the lead of the female, and all roosted there, the male meanwhile continuing to feed the other brood, and singing at almost every visit to them, from which circumstance I distinguished him. The next day, however, he seems to have taken charge of the fledged family and led them away to the groves, out of the reach of town cats, as after that the songless female alone attended to the remaining brood.

As confirming the probability of one pair being able to raise two broods, I may quote from Dr. Brewer the experiment by which one female was induced to lay twenty-five eggs in one season, eighteen

being successively taken, and the remaining seven hatched. I have not seen any evidence of a second brood being raised here *after* the first, very few birds of any kind doing this, on account of the scarcity of insect-food after the dry season is advanced, or in July.

The first brood left the nest June 5; the second on the 16th, which also consisted of six.

ON GEOGRAPHICAL VARIATION IN DENDRŒCA PALMARUM.

BY ROBERT RIDGWAY.

A VERY remarkable variation in colors, accompanied by less striking difference of size, from east to west, in this species, was first brought to my notice by a casual examination of the specimens contained in the National Museum, specimens from the Atlantic States appearing at first sight to be very much brighter colored than those from the Mississippi Valley, with somewhat different markings, and also larger in size. Examples from the West Indies, where, in part, the species passes the winter, are, so far as seen, entirely referable to the western form, as are also those from Western and Southern Florida. The circumstance that West-Indian specimens are identical with those from the Mississippi Valley is conspicuously in contrast with the case of *D. dominica*, in which the relationship is reversed, West-Indian specimens being identical with those from the Atlantic States, while examples from the interior States agree with those taken in Mexico and Honduras. The *D. dominica*, however, is resident in the southern portions of its range, while *D. palmarum* is one of those species which pass mainly north of the United States to breed.* Another fact in connection with the present bird is the notable exception which it constitutes in the matter of climatic variation to certain laws under this head, it being usual for specimens from the Mississippi Valley to be, if any different, brighter than those from corresponding latitudes on the Atlantic Coast. The variation would therefore appear to be entirely with longitude, so far as geographical considerations are concerned, and not to be explained by any known climatic laws.

This is written with the most positive assurance that such a wide

* *D. palmarum* has not been recorded from any part of Mexico or Central America.

difference does exist in this species between specimens from the country eastward of the Alleghanies and those from the Western States of the Eastern Sub-region, for not only does the ample series of specimens examined indicate such a difference, but evidence accumulated by correspondence confirms it. After examining all the material accessible I deemed it prudent, in order to make sure that the variations noted were not in part of an individual character, to call the attention of others to the subject. Accordingly, a pair of the western form (from Southern Illinois), in spring plumage, of which the male was unusually bright, were despatched to Mr. William Brewster, of Cambridge, Massachusetts, with the request that they be compared with his New England series, as well as with other local collections in Cambridge, while at the same time a typical example of the eastern style was mailed to Mr. E. W. Nelson, of Chicago, Illinois, with the same request. The replies of these gentlemen have been received, and fully establish my previous conclusion that the differences were strictly geographical. Mr. Brewster's letter reads as follows : —

"I have very carefully compared the birds sent with my series of twenty Massachusetts specimens, and find that they differ *widely* from any that I have ever taken here. The decided yellow of the entire under parts and the chestnut markings are *constant* in our bird, and subject to but a limited amount of variation, and this chiefly sexual. The dullest fall female in my series is much brighter beneath than your spring male. Again, your birds are clear brown above, from the occiput to the rump, while mine all have a greenish-yellow cast ; the lower eyelid in your specimens is white, while in mine it is as decidedly yellow as the superciliary stripe ; and, lastly, the markings on the lower parts, though more numerous, are brown instead of chestnut, and of a different shape, being mostly linear instead of tear-shaped. . . . . A pair of these birds from Florida agree very well with your specimens, after making due allowance for difference of season, they being winter birds. I saw at a glance that the birds you sent were totally different in color from any that are ever taken here, and as I have probably examined one hundred Massachusetts specimens altogether, I can assure you positively that the form you sent never occurs here at any season."

Mr. Ruthven Deane, of Cambridge, also examined the pair sent for inspection, and has this to say of them : "I have compared your two specimens of *D. palmarum* with mine, and find that they differ in the respects of which Mr. Brewster has written you. The

back of your specimens is considerably darker than in Massachusetts birds, and lacks the sprinkling of the yellowish feathers; the markings on the breast are much finer and less conspicuous in your specimens, and the stripe under the eye is invariably yellow in Massachusetts specimens. In fact, your birds are considerably different at a glance, and if they are typical of the Illinois bird I should think they represent a well-marked variety." Mr. Nelson's reply, received at the same time, is equally to the point: "The specimen of *D. palmarum* came to hand this morning. There is a great difference in intensity of coloration between this specimen and any I have seen or taken here, the one from Baltimore showing much brighter and purer yellow on the under parts, while the crown and spots on the breast are much clearer and brighter chestnut. I do not remember ever taking a specimen here in which the markings on the breast were so few, *and confined to the sides*, western specimens having the streaks extending uniformly across instead of having a nearly immaculate space between the two clusters of spots at the bend of the wing. As to fall specimens, the only observable difference is that they are much duller in color, more like the female of *Perissoglossa tigrina*." Mr. A. L. Kumlien, of Busseyville, Wisconsin, an experienced collector and accurate observer, examined the series with me, and stated his belief that no such specimens as those before him from the Atlantic States ever occurred in Wisconsin, and was positive he had never seen similar ones from that portion of the country.

The following are the specific characters of *Dendrœca palmarum*, and the diagnoses of the two subspecies, or geographical races: —

Common (specific) Characters. — No distinct bands on wing-coverts. Inner webs of two outer tail-feathers with large terminal patch of white. Crissum clear yellow. *Adult:* Below more or less yellow, the sides of breast streaked; a yellow or whitish superciliary stripe. Pileum uniform chestnut in spring and summer, or brownish streaked with dusky in fall and winter, but usually with more or less of chestnut beneath the surface. Above nearly uniform olive, becoming brighter, more yellowish-green, on rump and edges of tail-feathers. *Young:* Above dull grayish, streaked everywhere with dusky; below dirty whitish, tinged with yellow, the throat, breast, and sides heavily streaked with dusky; wing-coverts slightly tipped with buff. Wing, 2.35 – 280.

Subspecific Characters.

Subsp. *palmarum.* — Wing, 2.35 – 2.65 (2.52); tail, 2.05 – 2.45 (2.24); bill, from nostril, .27 – .32 (.29); tarsus, .71 – .80 (.76). Yellow of lower

parts interrupted by a whitish abdominal area ; breast streaked uniformly across, the streaks being linear, and dusky, with little if any tinge of chestnut ; lower eyelid whitish ; back dull olive-brown. *Habitat.* Mississippi Valley (north to Great Slave Lake) and West Indies. Casual in certain Atlantic States.

Subsp. *hypochrysea.* — Wing, 2.50 – 2.80 (2.69) ; tail, 2.25 – 2.55 (2.43) ; bill, from nostril, .28 – .32 (.30) ; tarsus, .75 – .80 (.79). Yellow of lower parts entirely continuous, and much brighter ; streaks confined mostly or wholly, to sides of breast, broadly tear-shaped, wholly reddish-chestnut ; lower eyelid bright yellow ; back greenish-olive. *Habitat.* Atlantic States, from East Florida to Nova Scotia.

Dendrœca palmarum.

Subspecies *palmarum.*

Le Bimbelé, ou la Fausse Linotte, BUFFON, Ois., V, p. 330 (St. Domingo).
Palm Warbler, LATH., Synop., II, pt. 2, p. 498.
Motacilla palmarum, GMEL., S. N., I, 1788, p. 951. *Dendrœca palmarum,* BAIRD, Birds N. Am., 1858, 488 ; et AUCT. (part).

Habitat. Mississippi Valley during migrations ; breeding in the interior of British America, wintering in the Gulf States, from Texas to Western and Southern Florida, and West Indies (Cuba, Jamaica, Santo Domingo, and Bahamas). Casual in certain Atlantic States (but not in New England ?). Carlisle, Penn., April, May, and September ; District of Columbia, April and October. (Specimens in Nat. Mus.)

Adult Male in Spring (No. 915, Mus. R. R., Mount Carmel, Illinois, April 22, 1869. *Brightest in the entire western series*). Beneath yellowish-white, tinged with yellow, the throat and crissum deepening into gamboge ; sides of the neck, sides, *and entire breast,* streaked with umber-brown, tinged with rusty, the shafts of the feathers darker ; a distinct superciliary stripe of clear yellow. Pileum uniform rich chestnut, darker next the bill, where divided medially by a short and indistinct streak of yellow. Upper parts in general olive-gray, deepening into yellowish olive-green on the upper tail-coverts. Tail-feathers dusky, edged externally with pale olive-yellowish, the two outer pairs with their inner webs broadly tipped with white. Wings dusky, the remiges edged like the tail-feathers, with yellowish olive-green ; both rows of coverts tipped with pale grayish-buff, forming rather distinct indications of two bands. Wing, 2.55 ; tail, 2.30 ; bill, from nostril, .30 ; tarsus, .80.

Most other males in the series before me are rather duller than the one described. A specimen from Carlisle, Penn. (No. 152, Mus. S. F. Baird, April 26, 1845, — presumably a male), differs merely in the more indistinct character of the streaks along the sides, those of the breast being almost obsolete. One of the brightest males in the entire series is one in Mr. Nelson's collection (No. 2,072, Waukegan, Ill., April 12, 1876). This,

however, is scarcely different from the one described, the only obvious difference being the somewhat brighter yellow on the breast, and the greater amount of chestnut in the streaks of the side of the breast. The palest male is also a Waukegan specimen (No. 2,073, Mus., E. W. Nelson, April 28, 1876), which has the posterior half of the superciliary stripe white and the whole breast whitish, the pure yellow being thus restricted to the throat and crissum.

Adult Female in Spring (No. 2,786 Mus. R. R., Mt. Carmel, Ill., Spring; S. Turner). Similar to the male, as described above, but pileum mixed chestnut and dark umber-brown, *distinctly streaked* with dusky. Wing, 2.35; tail, 2.05; bill, from nostril, .28; tarsus, .71.

A female in my collection, from Calumet, Ill. (May 12, 1875), is considerably paler and duller, the lower parts being whitish tinged with yellow on the throat and jugulum, the crissum only continuous yellow; even the superciliary stripe is white from the eye backward. The pileum is grayish-olive, like the back, tinged in one or two places with chestnut, and very indistinctly streaked. The streaks on the sides are almost obsolete, but across the jugulum they are quite well defined.

Adult (both sexes) in Winter. Lower parts dirty whitish, the breast and sides with narrow streaks of grayish brown; *throat and superciliary stripe wholly dirty whitish; yellow entirely confined to the crissum*, except a tinge on the abdomen, and along the edge of the wing in some specimens; crown grayish-umber, with but little, if any, tinge of chestnut, and distinctly streaked with dusky.

This plumage is that of all late fall and winter specimens, whether from far north or the West Indies. I have seen no specimens from the latter region in the spring plumage.

Subspecies *hypochrysea*.

Dendræca palmarum, AUCT., in part.

Dendræca palmarum hypochrysea, RIDGWAY.

Habitat. Atlantic States, from East Florida (in winter) to Nova Scotia. Breeding in Maine and northward, and wintering in the South Atlantic States; apparently not found at all in West Indies, nor in Southern or Western Florida!

Adult Male in Spring (No. 2,164, Mus. R. R., Cambridge, Mass.; W. Brewster). Entire lower parts, and a conspicuous superciliary stripe, bright yellow, *entirely continuous and uniform beneath;* entire sides marked with broad streaks of deep chestnut, these most distinct on the sides of the breast. Auriculars mixed olive and chestnut (the latter prevailing), somewhat darker immediately behind the eye; lore with an indistinct dusky streak. Entire pileum rich chestnut, becoming darker next the bill, where divided medially by a short and rather indistinct yellow streak. Rest of the upper parts olive, tinged with brown on the back, and bright-

ening into yellowish olive-green on the rump and upper tail-coverts, the latter having shaft-streaks of reddish-chestnut. Tail-feathers dusky, edged externally with yellowish-olive, the inner webs of the two outer feathers broadly tipped with white. Wings dusky, all the feathers edged with pale brownish-olive, this edging rather widest on the ends of the middle and greater coverts, where, however, they do not form any indication of bands. Wing, 2.65 ; tail, 2.50 ; bill, from nostril, .30 ; tarsus, .80.

The above description will apply almost equally well to the generality of bright-colored males in the series, except that the chestnut streaks on the upper tail-coverts are not found in any of the others ; there is considerable individual variation in the amount of the chestnut on the cheeks, but the auriculars seem to be never entirely of this color.

Adult Female in Spring (No. 63,155, Nat. Mus., Cambridge, Mass. ; H. W. Henshaw). Entirely similar to the male, as described above, except that the chestnut of the pileum is rather lighter, and less abruptly defined posteriorly, the chestnut streaks absent from the upper tail-coverts, no tinge of chestnut on the auriculars, which are plain olive, and size smaller. Wing, 2.60 ; tail, 2.40 ; bill, from nostril, .32 ; tarsus, .75.

A female from Nova Scotia, in breeding dress (parent of eggs in Nat. Mus.), is entirely similar in color, but rather smaller in size. Wing, 2.50 ; tail, 2.30 ; bill, from nostril, .30 ; tarsus, .75.

Adult in Autumn (No. 2,567, Mus. R. R., Washington, D. C., October 10, 1861 ; E. Coues). Generally similar to the spring male, as described above, but the chestnut of the pileum overlaid and almost entirely concealed by olivaceous tips of the feathers ; no tinge of chestnut on the auriculars, which are grayish-olive. *Yellow beneath as bright and continuous as in spring*, but chestnut streaks much less distinct. Markings generally less distinct, and colors more suffused ; tips of wing-coverts and edges of tertials decidedly brownish.

A specimen from Carlisle, Penn., in the same plumage (No. 783, Mus. S. F. Baird, October 7, 1842), differs merely in being more brownish above. The measurements of this and the preceding may be found in the accompanying table.

Adult in Winter (No. 59,811, Nat. Mus., Hibernia, Florida, February, 1870 ; G. A. Boardman). Similar to the autumnal plumage, but less brownish above.

Young, first Plumage (No. 2,807, Mus. R. R., St. Croix R., Maine, July 20, 1874 ; G. A. Boardman). Above grayish-brown, distinctly streaked with dusky, the streaks broader on the back, where they widen at the end of the feathers ; both rows of wing-coverts narrowly tipped with pale buff ; tertials edged externally with rusty cinnamon ; rump and outer edges of primaries and rectrices yellowish olive-green ; upper tail-coverts pale rusty-cinnamon. Lower parts mostly dull whitish, tinged on the throat and abdomen with lemon-yellow, the throat, breast, and sides heavily streaked with dusky ; crissum and edge of the wing bright yellow.

List of Specimens examined.

Subspecies *palmarum*.

Number.	Museum.	Sex and Age.	Locality.	Date.	Wing.	Tail.	Bill from Nostril.	Tarsus.
19506	U. S.	♂ ad.	Ft. Resolution, Br. Am.	June 1	2.65	2.40	.28	.80
23520	"	— "	Cuba (Monte Verde).	Winter	2.40	2.20	.30	.75
23523	"	♂ "	"	Jan. 17, 1861	2.60	2.30	.30	...
12192	"	— "	District of Columbia.	Spring	2.65	2.30	.30	.78
6494	"	— "	Florida (Indian Key).	Mar. 23	2.65	2.40	.30	.80
8647	"	— "	Cape Florida.	Oct 27, 1857	2.50	2.30	.30	.75
32260	"	♂ "	Macon, Georgia.	April, 1848	2.60	2.25	.31	.80
152	S. F. B.*	— "	Penn. (Carlisle).	Ap'l 26, 1845	2.40	2.25	.28	.75
54	"	— "	" "	May 2, 1840	2.45	2.25	.30	.75
733	"	— "	" "	Sep. 20, 1842	2.45	2.25	.29	.75
946	"	— "	—?	Winter	2.60	2.30	.30	.80
945	"	— "	—?	"	2.55	2.30	.28	.78
1343	E. W. N.†	♀ "	Illinois (Waukegan).	May 12, 1875	2.40	2.10	.30	.75
2072	"	♂ "	" "	Ap'l 12, 1876	2.50	2.20	.28	.80
2073	"	♂ "	" "	Ap'l 28, 1876	2.60	2.30	.30	.78
2074	"	♂ "	" "	May 12, 1876	2.45	2.15	.28	.78
2075	"	♂ "	" "	" "	2.50	2.15	.30	.75
1534	E. C ‡	— "	District of Columbia.	Oct. 1, 1859	2.50	2.45	.28	.80
—	P. L. J. ‖	♂ "	" "	Oct. 11, 1861	2.60	2.35	.30	.80
915	R. R.§	♂ "	Illinois (Mt. Carmel).	Ap'l 22, 1869	2.55	2.30	.30	.80
2786	"	♀ "	" "	Spring	2.35	2.05	.28	.71
—	"	— "	" (Englewood).	May, 1874	2.60	2.25	.30	.80
—	"	♀ "	" Calumet.	May 12, 1875	2.40	2.15	.30	.72
—	"	♂ "	Wisc. (Busseyville).	May 2,	2.55	2.20	.30	.80
—	"	♂♀ "	" "	May 14,	2.45	2.05	.27	.80
—	"	— "	" "	Autumn	2.50	2.10	.30	.75
			Average,.....		2.52	2.24	.29	.76

Subspecies *hypochrysea*.

Number.	Museum.	Sex and Age.	Locality.	Date.	Wing.	Tail.	Bill from Nostril.	Tarsus.
10236	U. S.	— ad.	Mass. (Sherborn).	Summer	2.80	2.40	...	.80
26929	"	♀ "	Nova Scotia.	June	2.50	2.30	.30	.75
59811	"	— "	Florida (Hibernia).	Feb., 1870	2.80	2.50	.28	.80
63155	"	♀ "	Mass. (Cambridge).	Spring	2.60	2.40	.32	.75
783	S. F. B.*	♂ "	Penn. (Carlisle).	Oct. 7, 1842	2.75	2.55	.30	.80
2164	R. R.§	♂ "	Mass. (Cambridge).	Spring	2.65	2.50	.30	.80
2567	"	— "	District of Columbia.	Oct. 10, 1861	2.75	2.50	.30	.80
2082	"	♀ "	Mass. (Cambridge).	Spring	2.55	2.30	.30	.80
—	"	♂ "	" "	"	2.75	2.50	.32	.80
—	"	— "	Maryland (Baltimore).	"	2.70	2.30	.30	.80
			Average,.....		2.69	2.43	.30	.79

* S. F. Baird. † E. W. Nelson. ‡ E. Coues. ‖ P. L. Jouy. § R. Ridgway.

NOTES ON TEXAN BIRDS.

BY J. C. MERRILL, M. D., ASSISTANT SURGEON, U. S. A.

I. *Five Species of Birds new to the Fauna of the United States.*

I have recently obtained the following species, new to the fauna of the United States, in the vicinity of Fort Brown, Texas : —

1. **Molothrus æneus**, *Wagler.* This species, next to *Quiscalus major* var. *macrurus*, is the most abundant of the family here during the summer months, and it is strange it was not obtained by earlier collectors. Professor Baird informs me that specimens forwarded to him may constitute a variety.

2. **Nyctidromus albicollis**, *Sclater.* In Baird, Brewer, and Ridgway's "Birds of North America" (Vol. II, p. 399), mention is made of the possible occurrence of this species within our limits. My first specimen was taken within Fort Brown on the 1st of April of this year. On May 2, while in camp some sixty-five miles up the river (Rio Grande), I obtained a female as she flew up from her two eggs ; and on the 15th of the same month a second set of eggs was found near the place where the first were obtained. The characteristic notes heard every evening showed that this species was by no means rare.

3. **Pyrrhophæna riefferi**, *Bourc.* This Mexican and Guatemalan species of Hummer is identified by Mr. Ridgway from my description of a specimen taken here last June by a soldier. He wished to keep it, but it escaped in a day or two. A second specimen was shot here a few weeks later, determined by Mr. Ridgway to be this species.

4. **Parra gymnostoma**, *Wagler.* Early in August I saw a pair of water-birds quite new to me on the borders of a lagoon near Fort Brown. I was on horseback at the time, and did not have my gun, but had a good opportunity to observe them carefully. The next day I winged one of them, but it fell into a dense bed of water-plants, and could not be found, and the survivor disappeared. Respecting a letter describing the bird as seen, Mr. Ridgway writes : "The bird you describe is undoubtedly *Parra gymnostoma ;* . . . . the chestnut back and yellow (greenish-yellow) wings settle the species beyond a doubt."

5. **Podiceps dominicus**, *Lath.* This species was first obtained early in March, three specimens being killed at one shot. I have also seen them in April, May, and August, in the shallow lagoons about here.

II. *On the Breeding Habits, previously unknown, of two Species of North American Birds.*

Embernagra rufivirgata, *Lawr.* This little-known species is quite abundant in the vicinity of Fort Brown, Texas. During the past season I searched in vain for its nest on the ground, where it seemed almost certain it would be found, on account of its eminently terrestrial habits. No nest was taken, however, until August 5, when one was found within the limits of the fort, placed on a sapling about four feet from the ground; it contained two eggs. On returning two days later, the female was obtained as she left the nest, to which a third egg had been added. Dissection showed that no more would have been laid. The *domed* nest was neatly constructed of fine twigs and straws, the more delicate ones being used for the lining. The eggs are pure white, and are large for the size of the bird, averaging .90 by .66 of an inch.

On September 7 a second nest was found, in all respects like the first, except that it was lined with hair; the two eggs were but slightly incubated, and do not differ from those first found.

Xanthura incas *var.* **luxuosa**, *Bon.* My first nest of this species was taken on the 27th of May, while in camp near Edinburgh (now Hidalgo), Texas, about seventy miles above Fort Brown, on the Rio Grande. It was placed on the horizontal branch of a waican-tree, about twenty-five feet from the ground, and was built of twigs and rootlets; the cavity was slight, and the entire structure so thin that the eggs could be seen through the bottom. These were three in number, and were quite fresh. The ground-color is a grayish-white, thickly spotted with brown and pale lilac, especially at the larger end; they average 1.11 by .82 inches. A second nest, found in the same vicinity May 8, was on a sapling seven feet from the ground; it closely resembled the first one, and contained four eggs, three far advanced in incubation; the fourth, which also differed in having the markings most numerous at the smaller end, was quite fresh. These eggs are shorter than the first set, averaging 1.01 by .80; in other respects they are much alike. During the latter part of the same month I found two more nests of this handsome bird; they resembled the others in situation and construction, but I was obliged to leave before eggs were deposited in either.

BIRDS OF NEW ENGLAND.

BY THOMAS M. BREWER.

My attention has been called to the paper in the September "Bulletin" signed "H. A. P.," and I notice with surprise certain

strictures that are hardly deserved. My Catalogue of the Birds of New England was, at first, only intended to be a simple list, without note or comment, transferring to a challenged list such species given by others as my own judgment led me to question, and adding the names of recent additions. This list I gave for what it was worth, expecting and desiring to have it amended and improved. But this writer seems to have totally misapprehended, in several essential respects, the purpose proposed in my list. It was but an initiative towards a complete and reliable list of the birds of New England, based upon the sure foundation of undisputed *facts*. Mere opinions, no matter by whom held, crude inferences from insulated facts, and still less empty conjectures, without data, were of no value in my eyes, and wholly irrelevant. We had had quite too much of this already, and our local lists had been overloaded with, and rendered comparatively valueless by, smart guesses and shrewd anticipations of coming occurrences.

Nor was it any part of my original design to indicate the character of the presence of birds in the New England States. At the last moment, and when it could only be done very briefly, and therefore incompletely, my friend, Mr. J. A. Allen, persuaded me to add this feature, after the whole article was in type, and when it could only be done so far as was possible, without materially adding to its length. Of course the additions are very brief, and never exhaustive.

"H. A. P.," apparently not appreciating the real purport of these notes, is at the quite unnecessary pains to supplement them with additions, all of them more or less liable to exceptional criticism. For instance, *Turdus migratorius* is given by me as a general summer resident, which is certainly correct, so far as it goes. Of course the merest tyro in ornithology knows that the Robin is also migratory in the spring and in the fall, and also that birds of this species may be met with irregularly and occasionally during winter in various parts of New England. But these peculiarities are many-sided, and to have done the subject full justice, with proper discrimination, would have required more space than I had at my disposal. "H. A. P." naïvely informs us that the Robin is a constant resident in Southern New England. If by this he intends to have us understand that the same individual Robins are constant residents with us, I take issue with him. I deny it to be a fact. The individuals of this species that occupy New England in the summer

leave before the approach of winter. Those who visit us in the winter are of a very different race, come from far beyond our limits, and do not remain with us after the approach of spring. More than this, these winter visits are not confined to Southern New England. In some seasons, and under certain conditions, Robins are more numerous in some portions of Northern New England, in mid-winter, where food is abundant, than I have ever found them in the southern portions. So far as my note on the Robin went, it was at least accurate, but the supplement of "H. A. P." is both inexact and calculated to mislead.

"H. A. P." asks if certain species, five in number, and named by him, are not shown by the records as birds to be retained. Having answered these questions to the best of my ability, in advance, and in the negative, I can only repeat that all the records we have in reference to them are unreliable, and that, in my judgment, these names should remain on the list of those requiring more evidence. One of them, *Nettion crecca*, will probably prove to be of occasional occurrence, but this I do not deem at all probable of the other four. If "H. A. P." can answer his own question, he should do so; if not, it is irrelevant.

"H. A. P." wanders from the path of legitimate criticism to accuse me of having withheld credit due to certain other and recent authorities, and in so doing ceases to be critical and becomes personal. I will only here remark, that his insinuations are both gratuitous and unjust. No one, other than myself, can know the extent or the limits of my knowledge, and no one has any right to assume how much of it is solely due to information derived from others. The limit to which I was restricted prevented my giving any extent of data, and where I depended upon authorities already made public, I was not at liberty so unnecessarily to swell my article as to repeat them. In every instance where there was any real occasion to do so, I have given due credit, so far as my limits permitted. And what makes this censure seem the more inconsistent and uncalled for is that, in his own paper, in which we find such an amount of sweeping generalizations, no credit whatever is given to any one else as having aided him in forming his conclusions. He has been either inconceivably fortunate in acquiring knowledge under difficulties, or he, too, has withheld the credit due to others for the data upon which he bases the positive dogmas he gives out in a manner quite *ex cathedrâ*.

I might go on and take up and criticise, one by one, each of these supplemental opinions, but as they are only opinions unsupported by facts, I view them as valueless. Some I know to be incorrect. *Vireo gilvus* and *Zenædura carolinensis*, for instance, to my certain knowledge, have been found very nearly, if not quite, throughout New England. Then, too, "H. A. P." and your humble servant do not appear to always attach the same significance to the same words, — "rare," for instance. With all due deference to his *opinions*, as expressed in all the instances where I have made use of this word, I must still adhere to my own, and am prepared to take issue with him squarely in every instance named by him where he challenges its use. Until he can produce the data for his sweeping declarations I am not prepared to admit the correctness of any of his unproven statements or inferences. I do not believe, for instance, that *Perissoglossa tigrina*, *Geothlypis philadelphia*, or *Contopus borealis* are "generally common" throughout Northern New England. Neither am I prepared to admit, without positive proof, that *Helminthophaga chrysoptera* can be said to breed in any considerable numbers in Southern New England, nor does it, so far as I know, in any part of the United States. The mere *ipse dixit* of a single observer, and scattered insulated instances, do not afford even inferential data. The same holds true of *Coturniculus passerinus*, though a much more common bird, but the portion of Southern New England in which it breeds in considerable numbers regularly must be small indeed. So far as my own observations go, and so far also as I have been able to obtain information from others, "H. A. P." is not warranted in his sweeping statement that *Micropalama himantopus* is a regular migrant along the whole New England coast. But if he is better posted, and can produce the evidence to establish his views on this long-controverted point, such data are too valuable and would be too interesting to be suppressed. But let us have facts, not imaginative opinions, and these not insulated, but in sufficient numbers. As for *Anthus ludovicianus*, I speak of that which I do know when I repeat that I have found it, sometimes in large flocks, in open country near the coast, in Massachusetts, in midwinter, notwithstanding the negative testimony of "H. A. P." to the contrary.

But I will not occupy any further space by taking up, point by point, the various forms of difference of opinion between "H. A. P." and myself. I will only add, in conclusion, that I see nothing in his criticisms, unsupported as they are by facts, to induce me to

make any material changes in my own views. Our ornithological horizons have evidently not been the same, and consequently our conclusions are not always in unison. He is welcome to his own conjectures, inferences, and opinions, but I must be permitted to retain my own, "H. A. P." to the contrary notwithstanding, until he produces something of more weight than unsupported assertion.

Recent Literature.

BIRDS OF SOUTHWESTERN MEXICO. — Mr. George N. Lawrence has recently published* his Report on the Birds of Southwestern Mexico, collected by Professor Francis E. Sumichrast, under the auspices of the Smithsonian Institution. The list embraces three hundred and twenty-one species, with valuable and occasionally quite copious field-notes by the collector. The paper is prefaced by several pages, by Professor Sumichrast, on the character of the avian fauna of Southwestern Mexico, which contain interesting generalizations respecting the distribution of the species. — J. A. A.

JORDAN'S MANUAL OF VETEBRATE ANIMALS.† — This work, says the author, was written "to give collectors and students who are not specialists a ready means of identifying the families, genera, and species of our Vertebrate Animals. In deference to the uniform experience of botanists, and in view of the remarkable success achieved by Dr. Coues, in the application of the method to Ornithology, the author has adopted the system of artificial keys. . . . . Use has been freely made of every available source of information, and it is believed that the present state of our knowledge is fairly represented." The task the author has here attempted seems to have been carefully done, and the work will doubtless prove of great value to the class for which it has been prepared. It indicates thorough acquaintance with the literature of the subjects treated, and well represents the latest and most approved views respecting the classification and no-

* Birds of Southwestern Mexico, collected by Francis E. Sumichrast. Prepared by George N. Lawrence. Bull. U. S. National Museum, No. 4. Published under the direction of the Smithsonian Institution. Washington: Government Printing-Office. 1876.

† Manual of the Vertebrates of the Northern United States, including the District east of the Mississippi River, and north of North Carolina and Tennessee, exclusive of Marine Species. By David Starr Jordan, M. S., M. D., etc. Chicago: Jansen, McClurg, & Co. 1876. 12mo. pp. 342. Price, $2.00.

menclature of the several classes of animals to which the work is devoted. With respect to the Mammals and Fishes, the author's plan of excluding the marine forms was doubtless, for various reasons, a wise one, especially in the case of the Cetaceans, concerning which our knowledge is still lamentably deficient. In respect to Birds, however, the desire for uniformity is the only obvious reason for not including the few strictly marine species, — a reason we deem quite insufficient for marring the otherwise praiseworthy completeness of the portion of the work devoted to this class. We notice, however, the absence of *Helminthophaga leucobronchialis*, while such species as *Euspiza townsendi* and *Ægiothus flavirostris* var. *brewsteri*, are included. A few species not yet recorded as found east of the Missouri are also included, though the western boundary of the district located is assumed to be the Mississippi River. But these are points that in no way seriously detract from the merits of the book. Several of the analytical tables of different groups of birds are based on or taken directly from Coues's key, and the latest and best authorities are followed for the other classes. Cope is closely followed for the Reptiles and Batrachians, while the Fishes show much original work. The Mammals are brought down to the literature of six months since, but several papers now in press or that have recently appeared will necessitate a few changes in nomenclature in future editions. In all cases the author gives liberal credit to the sources from which he has gathered his materials, as well as for aid more directly furnished.

On the whole, the author is to be congratulated on the success he has achieved in this difficult undertaking, combining in a work of convenient size and moderate cost a text-book of the Vertebrate Animals of the Northeastern States, reliable in character and sufficiently extended to guide the student with tolerable ease to the name of any species he may chance to have in hand. — J. A. A.

General Notes.

Capture of the Orange-crowned Warbler in Massachusetts. — The Orange-crowned Warbler (*Helminthophaga celata*) must be regarded, so far as our present knowledge warrants, as a rare visitor to New England. Two only have been previously reported in Massachusetts,* and these, with a third shot in New Hampshire,† fill the list of New England quotations.

* One was taken at Springfield, May 15, 1863, by Mr. J. A. Allen (see Proc. Essex Institute, Vol. IV, p. 60), and the other at Lynn, Jan., 1875 (see Brewer, in Proc. Bost. Soc. Nat. Hist., Vol. XVII, p. 439).

† At Hollis, May 16, 1876, by Mr. W. H. Fox (Forest and Stream, Vol. VI, p. 354).

In view of this fact, the announcement of a third specimen for Massachusetts may be of interest. On October 2, 1876, while collecting at Concord, Mass., I shot a female of this species in fine autumnal plumage. When first observed it was gleaning industriously among some low, scattered birches, in company with several Black-throated Green Warblers (*Dendræca virens*), a few Black-polls (*D. striata*), and one or two Nashville Warblers (*Helminthophaga ruficapilla*). Its small size and dark colors first drew my attention to it, and led me to suspect its identity. It proved upon dissection to be a bird of the year. — WILLIAM BREWSTER.

VARIABLE ABUNDANCE OF BIRDS AT THE SAME LOCALITIES IN DIFFERENT YEARS. — It has probably been observed by most of our field ornithologists, that many of our rarer birds are to be found in larger numbers during some of their annual or semiannual visits than during others. This is an interesting fact; but it is a fact of much greater interest that our commonest summer residents are similarly variable, and that, as a general rule, where one species varies in this respect, the deviation extends to all in the same degree. A small increase or decrease in the multitude of universally common species is, of course, less noticeable than a proportionate variation in the numbers of those which are less abundantly distributed; but that the former are as regularly subject to such variation as the latter is beyond all doubt. So absolute and unchanging is this law, that its effects may be detected from the appearance of the earliest spring arrivals to the coming of the last of the vernal migrants. Should the army of Thrushes and Finches that arrive from the south about the last of March be unusually large and continuous, you may prophesy with almost entire confidence a good year for birds. In the vicinity of Portland the seasons of 1875 and 1876 have been remarkable in examples of extreme numerical variation; the one for the paucity of rare species, the other for their abundance. During the past season (1876) White-crowned Sparrows occurred in almost unprecedented numbers, often appearing in flocks of six or eight; the previous season but one was taken, to my knowledge. In 1876 specimens of the Mourning and Bay-breasted Warblers were taken; the one new to the locality, the other not having occurred for six years. The Great-crested Flycatcher was common in 1876, rare in 1875. With a few exceptions, the same difference has been perceptible in the case of every species.

But what is it that exerts so potent an influence over our birds? Not the weather, it would seem; for heat or cold, storm or calm, causes but a slight difference in the time of the arrival of a species, much less in its numbers. An apparent auxiliary cause is the weather of the winter preceding the spring. If the winter be mild and rather free from snow, there is an evident increase in the numbers of the earliest arrivals in March; but it can hardly be supposed that a bird which does not make its appearance till the last of May feels the effects of mild weather several

months before. The great body of migrants are said to pursue different routes to their northern homes at different seasons. Very true ; but how about our summer residents ?

I confess myself puzzled for a satisfactory solution to the question. The abundance or scarcity of birds in winter or autumn has been better explained. — N. C. BROWN.

OCCURRENCE OF THE WOOD IBIS IN PENNSYLVANIA AND NEW YORK. — I learn from Mr. C. J. Maynard, who saw and examined the specimen, that on June 21, 1876, a Wood Ibis (*Tantalus loculator*) was captured at Williamsport, Pennsylvania. It was reported to be one of a small flock seen flying northward. "Forest and Stream" (of July 20, 1876) records (on the authority of Mr. Frederic S. Webster) the capture of another specimen on June 24, at Troy, New York. The occurrence of this strictly southern species so far north of its usual range has not, I think, been before reported. While its usual northern limit in the interior is Southern Illinois, it has been reported as occurring in Ohio and Wisconsin, and Dr. Coues refers to its occurrence in Chester County, Pennsylvania, its previous most northern record on the Atlantic slope. — J. A. ALLEN.

PECULIAR NESTING-SITE OF THE BANK-SWALLOW. — Dr. Rufus Hammond, of Brookville, Indiana, writes, under date of June 5, 1876 : "Two weeks ago I saw a Bank-Swallow building its nest in the east end of a frame paper-mill, about seventy yards from the depot, in which was placed the nest of which I have already informed you [see "American Naturalist," Vol. X, p. 373, June, 1876]. A weather-board had become detached from the building, leaving a small opening, in which I watched for two days a Bank-Swallow building a nest. Soon after the mill caught fire and was burned, of course destroying the nest and its contents. I have no doubt these birds will ultimately change their habits so far as to build their nests in any convenient place, especially in *pudlock* holes left open in brick buildings." I should, however, add that Mr. Ridgway ("American Naturalist," Vol. X, p. 493, Aug., 1876) questions whether the birds observed were not the Rough-winged Swallow (*Stelgidopteryx serripennis*), which nests as Dr. Hammond describes. — ELLIOTT COUES.

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Fred. A. More

QUARTERLY BULLETIN

OF THE

Nuttall Ornithological Club,

CAMBRIDGE, MASS.

VOL. I. - - - - **APRIL, 1876.** - - - - - NO. 1.

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PUBLISHED BY THE CLUB.

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BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB:

A Quarterly Journal of Ornithology.

Vol. I. — **JULY, 1876.** — No. 2.

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Cambridge, Mass.:
PUBLISHED BY THE CLUB.

University Press, Cambridge: Printed by Welch, Bigelow, & Co.

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NUTTALL ORNITHOLOGICAL CLUB:

A Quarterly Journal of Ornithology.

Vol. I. — **SEPTEMBER, 1876.** — No. 3.

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Cambridge, Mass.:

PUBLISHED BY THE CLUB.

University Press, Cambridge: Printed by Welch, Bigelow, & Co.

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Vol. I. — **NOVEMBER, 1876.** — No. 4.

CONTENTS.

Cambridge, Mass.:

PUBLISHED BY THE CLUB.

University Press, Cambridge: Printed by Welch, Bigelow, & Co.

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB:

A Quarterly Journal of Ornithology.

VOLUME II.

Editor,
J. A. ALLEN.

Associate Editors,
S. F. BAIRD AND ELLIOTT COUES.

CAMBRIDGE, MASS.:
PUBLISHED BY THE CLUB.
1877.

University Press: Welch, Bigelow, & Co.,
Cambridge.

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NUTTALL ORNITHOLOGICAL CLUB.

Vol. II. JANUARY, 1877. No. 1.

THE BLACK-AND-YELLOW WARBLER (*DENDRŒCA MACULOSA*).

BY WILLIAM BREWSTER.

First impressions are apt to be most lasting, and in many cases are engraved upon the memory with a vividness that defies the effacing influence of time. Thus the Black-and-Yellow Warbler was one of my earliest bird acquaintances, and I shall not soon forget our introduction.

My family was spending a few days in a quiet little country town in New Hampshire, when, one hot summer afternoon, finding time hang heavily on my hands, I borrowed an old gun, and at the country store, where everything was sold from a patent coffee-mill to the latest specific for rheumatism, I purchased a supply of ammunition, and, thus equipped, took to the woods and searched a long time in vain for game. At length, entering a grove of thickly growing young spruces, I sat down to rest on a mossy log. I had been there but a short time when I became conscious of faint sounds in the trees above and around me, — chirpings, twitterings, and occasionally a modest little effort at song. Watching attentively, I soon spied a movement among the branches, and a tiny bird hopped out into the light, presenting a bright yellow breast and throat for just a moment before flying into the next tree. Here was a revelation! I already knew a few of the most familiar birds, — the Robin, the Bluebird, the Sparrow, the Oriole, and some others; but it had never occurred to me that dark forests like these might be tenanted by such delicate and beautiful forms.

Only the tropics surely could boast such gems. With enthusiasm now fairly aroused, and animated with the spirit of an explorer, I went at once to work to investigate, and in the course of an hour or two more my ammunition was nearly exhausted, and quite a line of poor, lifeless, mutilated little birds lay arranged along the old log. Resting my gun against a neighboring tree, I examined long and carefully the results of my work. Scarcely any two of my specimens were alike, and as I contemplated in amazement their varied forms and coloring, I felt like the discoverer of a new world, and doubted whether human eyes had ever beheld the like before. Finally, the deepening twilight brought an end to my reveries, and, collecting my prizes, I took my way homeward. Taxidermy being to me then a sealed book, I had recourse to pepper and salt as preservatives, but a few hot days settled the matter and proved the ruin of my collection. I can recall with sufficient distinctness for identification but a single bird of them all, — a fine adult male Black-and-Yellow Warbler, which at the time I considered the handsomest, and which I still think cannot be surpassed in beauty by any New England representative of the family. That afternoon was an unlucky one for the birds. It laid the foundation for a taste that has since caused the destruction of thousands of their tribe.

The Black-and-Yellow Warbler arrives in Massachusetts from the South about the 15th of May. During the next two or three weeks they are abundant everywhere in congenial localities. Willow thickets near streams, ponds, and other damp places, suit them best, but it is also not unusual to find many in the upland woods, especially where young pines or other evergreens grow thickly. Their food at this season is exclusively insects, the larger part consisting of the numerous species of *Diptera*. The males sing freely, especially on warm bright mornings. They associate indifferently with all the migrating warblers, but not unfrequently I have found large flocks composed entirely of members of their own species, and in this way have seen at least fifty individuals collected in one small tract of woodland. By the first of June all excepting a few stragglers have left. If we follow them northward, we find a few pairs passing the summer on the mountains of Southern Maine and New Hampshire. In July, 1875, I found them breeding, in company with the Blackburnian Warbler (*Dendraca blackburniæ*), the Snowbird (*Junco hyemalis*), the Golden-crested Kinglet (*Regulus satrapa*), and

several other birds of the Canadian Fauna, on Mount Monadnock, New Hampshire, within fifteen miles of the Massachusetts State line. Throughout the White Mountains of New Hampshire they are everywhere common during the summer, but it is not until we reach the latitude of the Umbagog Lakes, in Western Maine, that we find them evenly distributed over high and low country alike. In this region summer succeeds winter so quickly that there is almost no spring. Thus when I reached Upton on the 25th of May, 1876, I found that the lakes had broken up but four days previously; not a leaf had unfolded, even in the most sheltered places, and snow lay in large masses everywhere in the hollows and on northern exposures. Yet many species of Warblers had already arrived, and among them the subject of the present sketch was well represented.

They kept closely about the buildings, and although the day was warm, maintained an almost perfect silence. Dozens at a time were hopping about the manure-heap behind the stables and around the sink-spout, while all showed a certain apprehensiveness of manner, as if they feared the issue of their temerity in penetrating into so bleak and dreary a region. Taking a short walk into the woods, I found them untenanted, save by a few Titmice, Woodpeckers, and some of the earlier Sparrows. But in the course of the next week wonderful changes took place. The birches first, afterwards the maples, beech-trees, and poplars, put on a feathery drapery of the most delicate green. The shad-bush (*Amelanchier canadensis*) and the "moose-wood" (*Cornus circinata*) became white with clustering blossoms, and looked at a distance like fleecy summer-clouds entangled among the trees. Underfoot, beautiful trilliums of both the purple (*Trillium erectum*) and white (*T. grandiflorum*) species, were conspicuous among a host of other wild-flowers. Bees hummed among the blossoms, and butterflies flitted airily through the forest glades. Everything was fresh, lovely, and suggestive of the calm, peaceful security of summer. Thus in one week were consummated changes that, farther south, are often extended through nearly thrice the time. All this while the birds had kept ample pace with the advance of the season. Hundreds were daily arriving, passing on, or settling into their accustomed summer-haunts, and the woods fairly rang with the first burst of their melody. During the next week all the Warblers, and most of the smaller birds generally, were occupied in pairing and constructing their nests. Then came

the harvest-time for the oölogist, and rarities were in order. But how brief it all was! A dozen or so days only, and the young were hatched out; the woods swarmed with mosquitoes, black flies, and other bloodthirsty insects, and "the season" was at an end. Nothing remained but to pack up the accumulated treasures, and get them safely home for future comparison and investigation.

Before taking out our cabinet specimens, however, and diving into the dry details of description, let us return to the woods, and contemplate for a few moments the undisturbed nest. We shall be most likely to find one along this old wood-road, for the removal of the taller trees has let in the sunlight a little, and birds love such places.

You will rarely find the interior of a forest so well peopled as the edges and little openings, and the birds are not singular in this respect. Men always choose the shores of rivers, ponds, or the sea, for their first settlements in a new country, and I fancy it is not entirely from considerations of utility, but partly because they crave an adjacent breathing-space, where the sun and wind may have fair sweep. There are some exceptions to the rule among the birds, of course, there being some morbidly disposed individuals that can find no place too dark or too secluded.

As we follow the old wood-path, you shall take one side while I make good the other. These little clumps of fir and spruce shrubs are the likely places, and, judging from the numbers of Black-and-Yellow Warblers that I hear singing, our chances are good, but you must remember that not above one male in three or four of this species is blessed with a mate, so do not let your hopes rise too high. They are a gay lot of bachelors, though, are they not? chasing one another through the branches, more in sport than anger apparently, and uttering their queer, emphatic little songs on all sides. *She knew she was right; yes, she knew she was right*, they seem to say; but what all this means I never could imagine. Some idle gossip of theirs probably, which it will not profit us to inquire into. Ha! I have it, even so soon. I thought yon fellow singing so gayly in the fallen tree-top had more the air of a Benedict than any we have previously seen, and here, almost under my hand, sits his modest little wife on her nest. Be careful how you shake that branch, for I would have you take a good long look ere we disturb her. See how her dark little eye glistens, and note the rapid pulsating motion of her back. Underneath those puffed-up feathers a poor little heart

is beating wildly with fear and apprehension, but still she sits bravely on her trust. She would say, if she could, with the Roman mother, "These are my jewels," and would entreat us to spare them. Now I will advance my hand cautiously. See! I almost touch her tail with my finger-tips; but the next instant she is gone. How quietly at the last moment she slid over the edge of the nest, barely eluding my grasp! A faint cry or two, and there comes the male; but he, gaudy little braggart! is far better at singing brave deeds than performing them, and will not trust himself very near, though he keeps up a constant chirping. His mate, however, is bold enough for both, and in her anxiety almost comes within reach of our hands. Now look into the nest! Beauties, are they not? Four of them; rosy white, spotted prettily with umber, lilac, and a few scattered dashes of black. Observe how cunningly the whole affair is concealed, — built close to the stem of the little fir, resting on the flat horizontally disposed rows of "needles," and arched over by the flake-like layer of twigs above. One long rootlet alone hangs down in full view, and had it not caught my eye I might have passed without discovering the nest. It seems, indeed, a pity to disturb it, but we shall regret it next winter if we leave it behind. Naturalists are probably not hard-hearted by inclination, but of necessity. I dare say the female will commence another nest before we pass here on our way back, and the male will be singing as joyously as ever in an hour or two. Birds' grief, like their average lives, is short, though apparently intense for the time. It is only the end, however, that can ever justify the destruction of a nest, and unthinking persons might, in many cases, be benefited by contemplating a little more closely the suffering which they inflict.

As the published descriptions of the nesting of this species are meagre and more or less conflicting, I shall go somewhat fully into the matter.

Location of Nest. — The nest is usually placed in a small fir or spruce, and rarely at a greater elevation than five or six feet. The average height would probably not exceed four feet, and I have found some barely twelve inches above the ground. It is usually *laid* somewhat loosely among the horizontal twigs, from which it can in most cases be lifted intact. Favorite localities are the edges of wood-paths, or roads bordered by woods, and clearings grown up to small evergreens. Exceptional situations are the interior of

the woods, where, in some cases, the nest is placed in the top of a young hemlock ten or fifteen feet up. In one instance I found a nest on a horizontal spruce limb in the very heart of the forest, and at least *thirty-five feet* above the ground. This nest contained four eggs, and the female bird, which was sitting, established its identity beyond question.

Composition of Nest. — The framework is wrought somewhat loosely of fine twigs, those of the hemlock being apparently preferred. Next comes a layer of coarse grass or dry weed-stalks; while the interior is lined invariably with fine black roots, which closely resemble horse-hairs. In an examination of more than thirty examples I have found not one in which these black roots were not used. One specimen has, indeed, a few *real* horse-hairs in the lining, but the roots predominate. This uniform coal-black lining shows in strong contrast with the lighter aspect of the outer surface of the nest. The whole structure is loosely put together, and bears a no distant resemblance to the nest of the Chipping Sparrow (*Spizella socialis*).

Among nests of the *Sylvicolidæ*, it finds, perhaps, its nearest approach in that of the Chestnut-sided Warbler (*Dendræca pennsylvanica*).

Audubon, describing a nest from Labrador, affirms that it was lined with "a great quantity of feathers." As regards this statement, I can only say that it is entirely at variance with my own observations, and the employment of feathers in a nest of this character seems to me almost as *mal à propos* as it would in that of a Heron or Cuckoo.

Description of Eggs, etc. — The time of laying with this species varies, in relation to the season, from June 8 to June 15. Four eggs commonly constitute a set, though in some cases but three are laid; and I know of an instance where five were found in one nest. They measure about .62 of an inch in length by .50 in breadth. The usual shape is a rounded oval, and the ground-color almost invariably creamy white after the removal of the contents. The markings are most commonly blotches of rich, warm umber, with smaller dottings of pale lilac or brown, disposed about the larger end. Some specimens are, however, thickly sprinkled over their entire surface with fine brownish spots. One set of four eggs differs from any of the others in having a decided tinge of bluish in the ground-color; while upon the large patches of umber which en-

circle the greater ends are drawn numerous wavy lines of black, precisely like the characteristic pen-markings of some of the Oriole's eggs. With an extensive series of specimens before me, I am led to the inevitable conviction that eggs of *D. maculosa* are in many cases indistinguishable from those of *D. virens*, *D. pennsylvanica*, and *D. discolor;* and an examination of an equal number of authentic eggs of the other *Dendrœcæ* would, I am satisfied, result in adding many more to this list. In the eggs of each of the above-named species there is an almost endless variation, and many sets are consequently quite unique, but the type — if, indeed, any can be established — finds equally near approaches among them all. Nests may, however, in most cases be relied upon, especially when procured from proximate localities.

In the case of the young, both before and after they leave the nest, this bird displays no exceptional traits. Both old and young, when the latter have become able to take care of themselves, join the immense congregations of mingled Warblers, Wrens, Titmice, Sparrows, and Woodpeckers, which collect in the northern forests in early August, to be dispersed — most of them southward — by the first frosts of September.

In Eastern Massachusetts this species occurs as a fall migrant from September 21 to October 30, but it is never seen at this season in anything like the numbers which pass through the same section in spring, and the bulk of the migration must follow a more westerly route. Its haunts while with us in the autumn are somewhat different from those which it affects during its northward journey. We now find it most commonly on hillsides, among scrub-oaks and scattered birches, and in company with such birds as the Yellow-Rump (*Dendrœca coronata*) and the Black-Poll (*D. striata*). A dull, listless troop they are, comparatively sombre of plumage, totally devoid of song, and apparently intent only upon the gratification of their appetites. It seems, at first thought, strange that the birds, at a season when all the rest of Nature puts on its most gorgeous coloring, should array themselves in their dullest; but it must be borne in mind that many of them played their part before these brilliant leaves had burst their buds, and now, like ushers and orchestra, whose duty has been performed, they stand aside among the audience, and watch the shifting glories of the final transformation-scene. So let us leave them until, attired in fullest costume, they come again to herald, with overtures of joyous song, the rising of the curtain on a new year.

ON GEOGRAPHICAL VARIATION IN TURDUS MIGRATORIUS.

BY ROBERT RIDGWAY.

CERTAIN differences between Eastern specimens of the common Robin and those from the Rocky Mountains were first pointed out by Professor Baird, in his "Review of American Birds" (1864, pp. 28, 29), in the following words: "In highly plumaged specimens from the East the feathers of the interscapular region are frequently, even generally, tinged with blackish in their centres, passing gradually into ash on the edges, and the black of the head ceases to be abruptly defined. There is also usually a well-defined whitish tip, half an inch long, to the outer tail-feathers. In Rocky Mountain skins the tail is either black, except a very narrow whitish edge, or the white tips of Eastern specimens are replaced by a dull gray. The black of the head, too, is better defined, the interscapular feathers more uniformly ash, and the upper parts without the faint brownish wash so frequently seen in Eastern specimens. There are, however, some exceptions to these features in specimens from each locality. The colors generally of Western birds appear to be paler." Again, in the "History of North American Birds" (Vol. I, p. 25), the same and additional differences are alluded to, as follows: "There are some variations, both of color and proportions, between Eastern and Western specimens of the Robin. In the latter there is a tendency to a longer tail, though the difference is not marked; and, as a rule, they slightly exceed Eastern specimens in size. The broad white tip to the lateral tail-feather — so conspicuous a mark of Eastern birds — is scarcely to be found at all in any Western ones; and in the latter the black of the head is very sharply defined against the lighter, clearer ash of the back, there hardly ever being a tendency in it to continue backward in the form of central spots to the feathers, as is almost constantly seen in Eastern examples; of Western specimens, the rufous, too, is appreciably lighter than in Eastern."

Very extensive material received at the National Museum since the above was written tends to confirm the constancy of most of these differences between Eastern and Western Robins, while other

points of diversity, previously overlooked, have been detected, the most important being the much blacker tail of Eastern birds, and their decidedly shorter wing.

Upon the whole, the two forms seem to constitute two very strongly marked geographical races, which may be distinguished as follows : —

T. migratorius. — Wing, 4.85 – 5.35 ; tail, 4.10 – 4.60 ; bill, from nostril, .48 – .51 ; tarsus, 1.20 – 1.35 ; middle toe, .85 – .92.* Inner web of outer tail-feather with a distinct white terminal spot. Tail-feathers of adult male dusky black, with slight edging of plumbeus. *Habitat.* Eastern region, including the whole of Alaska, Eastern Mexico, and the eastern border of the Missouri Plains.

T. propinquus, Ridgw. (MSS.). — Wing, 5.35 – 5.60 ; tail, 4.60 – 4.70 ; bill, from nostril, .50 – .55 ; tarsus, 1.30 – 1.35 ; middle toe, .90. Inner web of lateral tail-feather with merely a narrower terminal edging of white, or with no white whatever. Tail-feathers of adult male dusky slate, without distinctly paler edges. *Habitat.* Western region, including eastern base of Rocky Mountains.

We find the character of blackish centres to the interscapulars in Eastern specimens to be too inconstant a feature to serve as a character. No specimens of the Western series are so marked, but many Eastern ones, otherwise typical, have no trace of these markings. It is a well-known fact that the eggs of the Western Robins average considerably larger in size than those of Eastern birds.

UNUSUAL ABUNDANCE OF THE SNOWY OWL (*NYCTEA SCANDIACA*) IN NEW ENGLAND.

BY RUTHVEN DEANE.

In a recent number of this Bulletin (Vol. I, p. 95), Mr. N. C. Brown gave some interesting notes respecting the variable abundance of birds at the same locality in different seasons. I do not think a more forcible illustration of his remarks can be cited than the recent great abundance of the Snowy Owl in New England. This bird is regarded as not a rare winter visitor to New England,

* Eight specimens.

where it is confined mostly to the coast, although occasionally taken throughout the interior. About the first of November, 1876, however, large numbers suddenly appeared along our coast. This being the season when sportsmen and the market gunners were in pursuit of water-fowl on the sea-shore, dozens of Snowy Owls were shot by them and sent to the markets and to taxidermists, so that during the three following weeks it was a common thing to see them hanging with other game in the markets, or confined alive.

I first heard of them on our Massachusetts coast as frequenting the islands off Rockport, where numbers were taken. One gunner spoke of seeing fifteen at once on a small island one foggy morning, nearly half of which he procured. As the Owls flew around over the rocks uttering their weird cries, they presented a scene of rare occurrence in New England. Specimens were soon after captured in nearly every town in this vicinity (Boston), and were sent to the city from various other parts of the country. Several were shot in the very heart of the city of Boston, where they were occasionally seen perched upon the house-tops or church-spires.

I learn from Mr. George A. Boardman, of Milltown, Me., that they were at this time very abundant in his locality, where they appeared as early as September. Mr. Simeon F. Cheney, of Grand Menan, also informs me that they were never before so abundant there as during the present season, arriving there about October 20. He reports that eight were seen together at one time, and that on another occasion a flock of fifteen was noticed.

Mr. N. C. Brown, of Portland, Me., reports that about one hundred and fifty were shot in the immediate vicinity of that city, and that five flew about the buildings of the city for a week unmolested. Mr. J. M. Le Moyne also writes me that the unusual abundance of these birds about Quebec, Canada, has been the subject of general remark.

The migration seems also to have extended far to the southward of New England, as I learn from Mr. Boardman that specimens have been taken as far south as Philadelphia, Baltimore, and Washington. In Philadelphia Mr. John Krider, the well-known taxidermist, had forty sent to him for preparation during October and November. One was taken near Baltimore during the last of September. I have heard of some five hundred specimens that have been seen, the majority of which have been shot.

Many of the specimens were in exceedingly poor condition. Of

some two hundred of these Owls examined by me, nearly all were in very dark plumage, and none wore that almost spotless dress which we occasionally see.

The cause of the sudden visit of such an unusual multitude of these boreal birds, coming as they did when the weather for a few days was unusually warm for the season, the thermometer standing at 75° at noonday, is a question not easily solved. Scarcity of food would seem the most probable solution, or perhaps an early severe cold snap started them on their southward flight. If so, it seems strange that other less hardy species should not be affected in a similar way, as but few Geese and Brant had passed south when the Owls had been with us for a week.

About ten years since there was a somewhat similar migration of this species into the British Provinces and New England, but the birds appeared later in the season, and not in such great numbers as in the present instance.

DISTRIBUTION OF NEW ENGLAND BIRDS. — A REPLY TO DR. T. M. BREWER.

BY H. A. PURDIE.

When asked, some time since, to review a "Catalogue of the Birds of New England," by Dr. T. M. Brewer, I at first declined, feeling that if I expressed myself conscientiously, I should give some displeasure to its author. But I finally consented, and penned the short article in the third number of this Bulletin, bearing the signature "H. A. P." I intended to give the writer of this Catalogue all the credit due him; but in this, according to his reply in the following number, I have signally failed. The tone of Dr. Brewer's article, and the demand he makes that I must produce something of more weight than "unsupported assertions," "sweeping generalizations," opinions and conjectures unsupported by facts, and "positive dogmas given out quite *ex cathedrâ*," renders it necessary for me, in defence, to reply somewhat in detail. He must, however, be aware that reviews are generally limited as to space, and especially so was the case in this instance, so that full citations in support of my differences with him were out of place. He now

says he gave the list for what it was worth, expecting and desiring to have it amended and improved; and elsewhere he has said, "however lenient we may be even towards errors and incorrect statements that apparently might have been avoided, we should also, all of us, never hesitate to expose and to correct whatever we know to be wrong." Unhappily such an attempt on my part has not been very graciously received. He also says "it was but an initiative towards a complete and reliable list of the birds of New England," and that it was "at the last moment, and when it could only be done briefly," that "the character of the presence of the species" was added, and that of course the additions were "never exhaustive." Now I will respectfully ask how the general reader was to know this. I *received* the list "for what it was worth." There was nothing in the introduction to show that it was not considered complete or correct.

Of course, after all that has been written upon the subject, I was aware that generally a species is not resident *individually* in a given section of territory. His remark respecting the Robin, that the birds found with us in winter are not the same as those that pass the summer here, but "are of a very different *race*," is not at all to the point at issue. As a species, I say *Turdus migratorius* is a resident of New England. If, however, as he holds, the birds found in winter are another and very different race, — as race is now understood — he should have so indicated it in the Catalogue, perhaps as "*Turdus hyperboreus*. Arctic Robin. Winter visitant." I intended in reply to cite at length all the facts that bear upon the points in dispute, but found that to do so would require quite too much of the valuable space of the Bulletin; but I trust that I have brought forward sufficient evidence to show that my statements were not altogether "conjectures" and "unsupported assertions."

The following five species, among others, Dr. Brewer claimed had never been taken in New England, and therefore should be excluded from the list of New England birds. In respect to this, I simply asked "if previous record did not show that these at least could be retained," intending thereby to imply that I considered this to be the case. The following are the birds and their record: —

Quiscalus major. Boat-tailed Grackle. — "*Q. baritus*, Bonaparte. Thrush Blackbird. New Haven. Of the Thrush Blackbird one specimen only has been observed, by Dr. Whelpley at New Haven, and of

course is rare in Connecticut." (Rev. J. H. Linsley, Cat. of the Birds of Conn., in Am. Jour. Sci. and Arts, Vol. XLIV, 1843, p. 249.) "Accidental. Have heard of one that was killed in Cambridge a few years since. Mr. E. A. Samuels tells me that a pair bred in Cambridge in 1861." (J. A. Allen, Proc. Ess. Inst., IV, p. 85, 1864.) Both these and the Connecticut bird are cited by Dr. Coues (Proc. Ess. Inst., V, p. 285, 1868) as valid. But I understand that more recently the authenticity of the specimens taken is doubted, they being referred to the Crow Blackbird (*Q. purpureus*). As Mr. Linsley also gives *Q. purpureus* as common, I see no reason for doubting his record. Of Mr. Samuels's birds, I have always understood him, and he still avers that two of them, in the flesh, were brought to him by Professor Jeffries Wyman, and that to his best knowledge and belief they were shot in the Cambridge salt marshes ; that their rarity was commented on at the time, and that they were *not Q. purpureus*.

Corvus ossifragus. Fish Crow. — "Stratford," Conn., Linsley (l. c.). "An occasional visitor along the southern coast of the State of Massachusetts." (J. A. Allen, l. c.) "Very rare visitor in summer" to Massachusetts. (E. A. Samuels, Descriptive Catalogue of the Birds of Mass., in Rept. of Sec. Board of Agriculture of Mass. for 1863.) "A rare summer visitor, chiefly along the more southern portions of the coast" of New England. (Coues, Proc. Ess. Inst., V, 1868.) "Coast of the United States, from New England to Florida." (Coues, Birds of the Northwest.) And now, as confirmatory of the above, Mr. Brewster gives an instance of his seeing it in Cambridge, March 16, 1875. (See this Bulletin, Vol. I, p. 19.)

Ægialitis wilsonius. Wilson's Plover. — Allowing that this species has not yet been found in Massachusetts, we have : "Stratford," Conn., Linsley (l. c.). "Appears to be rather rare, and perhaps only occasional, as far north as Massachusetts. (Coues, l. c.) "Dr. Wood informs me that Wilson's Plover is abundant in August on Long Island, and Mr. Linsley has recorded it from Stratford, Conn. It hence seems unquestionable that they sometimes occur in Southern New England, and it would not be strange if they should occasionally reach the coast of Massachusetts." (Allen, Am. Nat., Vol. III, 1869.) "North to Long Island and Connecticut, probably to Massachusetts, but rare beyond New Jersey." (Coues, Birds of the Northwest.)

Nettion crecca. European Teal. — At a meeting of the Boston Society of Natural History, April 18, 1855, Dr. Bryant remarked that a specimen of the European Green-winged Teal had been sent to Mr. E. Samuels to be mounted. It was shot in Massachusetts, the first he had ever seen in the State. (Proc. Bos. Soc. Nat. His., Vol. V, p. 195.) This instance is cited by Allen (Proc. Ess. Inst., Vol. IV, 1864) and by C. J. Maynard (Naturalist's Guide, 1870). "A European species, but so often

taken on the coast as to be fairly considered as more than an accidental visitor." (Coues, Proc. Ess. Inst., Vol. V, 1868.)

Sula fiber. Booby Gannet. — "Guilford," Conn., Linsley (l. c.). "September. Rare." Essex Co., F. W. Putnam. (Proc. Ess. Inst., Vol. I, 1856.) Both these cases are cited by Dr. Coues in his Birds of New England, and the last by C. J. Maynard. (Naturalist's Guide, 1870.)

I think that the above-named five birds have as much right to be included among those that have occurred with us as have the Mealy Red-Poll (*Egiothus canescens*), Small-headed Flycatcher (*Myiodioctes minutus*), Willow Ptarmigan (*Lagopus albus*), White-fronted Goose (*Anser gambeli*), and Hutchin's Goose (*Bernicla hutchinsi*), which are all retained by Dr. Brewer. There are also two other birds, namely, the Blue-gray Gnatcatcher (*Polioptila cærulea*) and the Blue Warbler (*Dendroica cærulea*), expunged by Dr. Brewer, whose record of occurrence in New England is as good as any just cited, which I am prepared to show have recently been taken in Connecticut and Rhode Island. (See this number of the Bulletin, p. 20.)

In regard to the Robin (*Turdus migratorius*), the Crow (*Corvus americanus*), the Hairy Woodpecker (*Picus villosus*), the Long-eared Owl (*Otus wilsonianus*), the Short-eared Owl (*Brachyotus cassini*), the Acadian Owl (*Nyctale acadica*), and the Sharp-shinned Hawk (*Nisus fuscus*), which Dr. Brewer classed as summer residents of New England (he saying of the Crow that a few winter), but which I stated must be considered as constant residents, at least of the southern portions, and some of them also of the northern, I will say that a reference to the often cited local lists, and to other writings on New England birds, quite fully confirms my remark, these species being given as residents, some of them occurring in smaller numbers in winter, as is to be expected, while again others are found more frequently in winter than at any other season. I notice a slight exception in the case of *Nisus fuscus*, a few writers regarding it as only a summer visitant, even to Massachusetts; but that it, as well as the others, remains in greater or less numbers in certain sections the year round, is well known to collectors.

In the "History of North American Birds," by Messrs. Baird, Brewer, and Ridgway, we find the following respecting the winter distribution of the Robin: "In the winter months it is most abundant in the Southern States, while in the Middle and even the Northern States, in favorable localities, it may be found throughout the year; its migrations being influenced more by the question of food than of climate. In the valleys among the White Mountains, where snow covers the ground from October to June, and where the cold reaches the freezing-point of mercury, flocks of Robins remain during the entire winter, attracted by the abundance of berries. In Massachusetts a few Robins remain throughout the year, but the greater proportion leave early in November, returning late in February or early in March."

Also in respect to the Hairy Woodpecker, we read in the same work (Vol. II, p. 506): "It is a resident and not a migratory species, and wherever found it also breeds."

Also (in Vol. III, p. 46) of *Nyctale acadica:* "Mr. Boardman and Professor Verrill both give it as resident, and as common in Maine."

Other species, namely, the Short-billed Marsh Wren (*Cistothorus stellaris*), the Warbling Vireo (*Vireo gilvus*), the White-eyed Vireo (*V. noveboracensis*), the Field Sparrow (*Spizella pusilla*), the Carolina Dove (*Zenædura carolinensis*), and the Quail (*Ortyx virginianus*), which were given as summer residents, presumably of all New England, I said seldom reached Northern New England. With the exception of *Ortyx virginianus*, I did not make the positive statement that the above-named species never did so, knowing that one or two of them had been found sparingly at certain localities in that section. Here again, the published record, with but slight exceptions, supports me in my assertion. As to *Vireo gilvus* and *Spizella pusilla*, though given by Mr. Verrill as summer visitants at Norway, Me., and by Dr. Coues as summer visitants to all New England, the former is rare, and the latter does not occur at all, at Calais, Me., nor does C. J. Maynard give either as found in Coos County, N. H., or Oxford County, Me. He considers the White Mountain range as forming their northern limit of distribution. Mr. William Brewster did not find them at Franconia, N. H.

Respecting *V. noveboracensis*, I quote the following from the "History of North American Birds" (Vol. II, pp. 385, 386): "In the last-named State [Massachusetts] it becomes exceedingly rare, and beyond it is apparently not found, none having been met with either by Messrs. Verrill or Boardman in any part of Maine. Mr. Audubon states that he himself found them along the coast in Maine, Nova Scotia, and Labrador. This, however, I am inclined to consider a misstatement, as they have not since been detected north of the 42d parallel."

From the same work (Vol. II, p. 5), respecting *S. pusilla*, is the following: "In the summer it breeds from Virginia to Maine, as far as the central and western portions. It is not found near Calais, but occurs and breeds near Norway, Oxford County."

Again of *Z. carolinensis* (Vol. III, p. 384): "It is found in the southern part of Maine as far to the eastward as Calais, but was not collected by Mr. Verrill at Norway, and is not known to occur in the northern part of that State." I said it was not "rare," meaning of course in Southern New England, and by looking up the matter, such will be found to be the case. Citing again from our standard work on North American birds, we find this of *Ortyx virginianus:* "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."

Observations made in the nesting-season during the last five or six years in New Hampshire and Maine, by such experienced collectors as Messrs. Brewster and Maynard, and, to a less extent, by Bailey, Deane, and myself, show the absence of the foregoing species from the Fauna, and the presence of the five following, namely, the Cape May Warbler (*Perissoglossa tigrina*), the Mourning Warbler (*Geothlypis philadelphia*), the Olive-sided Flycatcher (*Contopus borealis*), and, in less abundance, the Black-backed and the Banded Three-toed Woodpeckers (*Picoides arcticus* and *P. americanus*).

What had already appeared in print respecting the distribution of these birds, added to the observations of the above-named gentlemen, I thought warranted me in saying that at least *P. tigrina*, *G. philadelphia*, and *C. borealis*, were "generally," that is, usually, if, perhaps, not universally, common, and bred regularly in Northern New England.

The Worm-eating Warbler (*Helmitherus vermivorus*), the Blue-winged Yellow Warbler (*Helminthophaga pinus*), the Yellow-breasted Chat (*Icteria virens*), the Hooded Warbler (*Myiodioctes mitratus*), and the Great-crested Flycatcher (*Myiarchus crinitus*) have generally been considered rare birds in any part of New England, but in the "American Naturalist" (Vol. VII, 1873, p. 692) I mentioned, on the authority of Mr. J. N. Clark, of Saybrook, Conn., that they were found at that locality regularly in numbers and breeding, though he had not actually found the nest of *H. vermivorus*. I also spoke of a Water-Thrush that occurred there, and inferred that it was probably the Long-billed Water-Thrush (*Siurus ludovicianus*). Subsequent correspondence, and a visit to Saybrook in June, 1875, confirmed my suspicion, proving that *ludovicianus* was the species that summered there, and that it was common, as were all the others, with the exception of *H. vermivorus*. Mr. C. M. Jones, now of Eastford, Conn., has written me that he observed all but *S. ludovicianus* and *H. vermivorus*, at Madison, in that State, where he formerly resided.

The Golden-winged Warbler (*Helminthophaga chrysoptera*) and the Yellow-winged Sparrow (*Coturniculus passerinus*) are two species that Dr. Brewer still denies can be considered as breeding regularly, or in numbers, in any portion of New England. As far back as June, 1869 (Am. Nat., Vol. III, p. 497), and again in 1870 (Samuels's Orn. and Oöl. of New England, revised edition, 1870, Appendix), I showed that the Golden-winged Warbler was far from uncommon in Massachusetts. Observations made every year since have not altered my opinion. I find it in the proper places from May to August. It is apparently less plenty after the first of June, but is still not a bird of the Canadian Fauna.

In "History of North American Birds" (Vol. I, p. 193) we read: "Occasionally specimens have been obtained in Massachusetts, and, of late, these occurrences have become more common or more observed. . . . . Mr. J. A. Allen has known of several specimens taken within the State. Mr. Jillson has observed it spending the summer in Bolton, and evidently

breeding, as has also Mr. Allen at Springfield, and Mr. Bennett at Holyoke." (See also Am. Nat., Vol. III, 1869, p. 575; Maynard's Naturalist's Guide, 1870; and this Bulletin, Vol. I, p. 6, for accounts of the nesting of this species in Massachusetts.)

I had no idea that any one acquainted at all with New England birds could say that *C. passerinus* was rare, or even uncommon, in Southern New England. Why, it absolutely swarms, so to speak, on Nantucket. I presume Dr. Brewer will allow that island to be included within our limits. On Cape Cod, and, indeed, in various portions of Massachusetts, Rhode Island, and Connecticut, and even northward to Concord, New Hampshire, it may be found in plenty at all suitable localities. At Saybrook, Conn., its notes were to be heard in every field. (See History North American Birds, Vol. I, p. 554, and local lists of New England birds, south of Northern sections, in confirmation of this statement.

The Long-billed Curlew (*Numenius longirostris*), the Yellow Rail (*Porzana noveboracensis*), and the Coot (*Fulica americana*) I considered spring and fall migrants, rather than as summer residents. The lists show this statement also to be true, while the gunners and collectors further confirm it. Perhaps a few may summer on the extreme northeastern coast of Maine.

But my space is becoming limited. That the Golden-crested Kinglet (*Regulus satrapa*) winters in numbers in Southern New England, that the Snowbird (*Junco hyemalis*) does not do so in Northern New England, that the Titlark (*Anthus ludoricianus*) does not winter (perhaps with rare exceptions in the southernmost parts), and that *Ectopistes migratoria* regularly summers in different portions of New England, are all statements demonstrable by facts already in print, and by the observations of those who speak of that which they do know.

A word about the Stilt Sandpiper (*Micropalma himantopus*), and I am done. In the "American Naturalist" (Vol. III, p. 639) is recorded the first supposed instance of its occurrence in New England. In the same periodical (Vol. VII, p. 727) is given the first supposed * instance for Massachusetts. Again (in Vol. VI, p. 307) Mr. Brewster says: "The Stilt Sandpiper (*Micropalma himantopus*), which I see was recorded in a recent number of the 'Naturalist' as new to our Fauna, I consider by no means rare in its migrations. Indeed, I have seen as many as six or seven sent into Boston market at one time, from Cape Cod, and, in the course of a few weeks' shooting in August, at Rye Beach, N. H. (just north of our State limits), secured no less than ten specimens." Not only has he since shot it, but he, as well as myself and others, find it frequently in the Boston markets.

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* Mr. F. C. Browne, of Framingham, has a specimen taken at Plymouth in 1852.

OCCURRENCE OF THE BARNACLE GOOSE (*BERNICLA LEUCOPSIS*) ON LONG ISLAND, N. Y.

BY GEO. N. LAWRENCE.

I was recently informed, by Mr. Harold Herrick, that a specimen of this species could be seen at the store of Mr. Conway, taxidermist, in Carmine Street, said to have been killed on Long Island. I called there and was shown a nicely mounted example of this Goose in perfect plumage. Mr. Conway said that it was brought to him in the flesh, in good condition, and was eaten by his family; he spoke very favorably of its edible qualities.

I learned from him that its possessor was Mr. J. K. Kendall of this city. I had an interview with this gentleman, and requested that he would ascertain all the facts possible as to its capture, and send me the information. I received from him the following letter giving the result of his inquiries: —

New York, November 29, 1876.

Dear Sir, — About October 20 I saw a specimen of the Barnacle Goose hanging in a restaurant in this city, — bought it and had it stuffed. I questioned the proprietor, and learned from him the place where he bought it, — from a produce-dealer near Washington Market. Afterwards I interviewed the marketman, and he recollected the bird well, although he had no idea what it was. He told me he bought it from a Long Island farmer, who brought it to the city in his wagon, and who said that it was killed by a boy in Jamaica Bay. Unfortunately he did not know the farmer, — never saw him before nor since, so I was unable to trace the bird any farther, but I am fully satisfied the story was true.

Yours truly,

J. K. Kendall.

This is the second instance of this species having been procured on the Atlantic coast; the first was obtained in Currituck Sound, North Carolina, in 1870, and is recorded in Vol. V, p. 10, of the "American Naturalist." *

* In Dr. Brewer's "Catalogue of the Birds of New England" (from Proceedings of the Boston Society of Natural History, Vol. XVII, March 3, 1875) he excludes this species from our New England list, and also states that the specimen recorded by Mr. Lawrence as having been taken in North Carolina was

CAPTURE OF A SECOND SPECIMEN OF HELMINTHOPHAGA LAWRENCEI.

BY HAROLD HERRICK.

In 1874 I had the pleasure of publishing in the "Proceedings of the Academy of Natural Sciences of Philadelphia" (p. 220, pl. xv) a description of a new species of *Helminthophaga* that I had just been fortunate enough to unearth. It has remained unique up to the present time, and although its friends have stoutly maintained its validity, the "hybrid" theorists have sorely tried their faith; therefore I am more than pleased to be able to set the matter permanently at rest by announcing the capture of a second specimen of *Helminthophaga lawrencei*. The specimen, oddly enough, was secured by Mr. Lawrence himself, who sends it to me with a letter of explanation, from which the following is an extract: —

"I obtained the specimen of *H. Lawrencei* last fall from a dealer, who called my attention to it as having a black throat, differing in that respect from any species he had ever before met with. He said it was sent to him last spring from Hoboken, N. J., with a miscellaneous lot of Warblers. I think the acquisition of a second specimen of this species should put at rest all doubt of its validity."

This specimen agrees precisely with the type, with this slight exception, that the type is an adult male, probably in the second or third year, while the bird under consideration is unquestionably a yearling male, and still has the immature yellowish tips to the coal-black feathers of the throat-patch. A slightly similar effect is seen in the yearling males of *Dendræca virens*. I cannot better describe it than by republishing the description of the type.

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probably one of eight specimens which escaped from the grounds of a gentleman in Halifax in the fall of 1871 or 1872.

From Mr. Lawrence's record (Am. Naturalist, Vol V, p. 10) we find this Goose was captured on October 31, 1870, one or two years previous to the escaping of the Halifax birds.

In view of this fact may not Mr. Lawrence's specimen still remain as the first authentic instance of the occurrence of the Barnacle Goose in the United States; at all events, until we hear of a confined specimen having escaped previous to that date? — Ruthven Deane.

"Upper parts and rump olive-green, a shade darker than in *pinus*. Wings bluish-gray, with two white bands, the upper not so clearly defined as in *pinus*. Tail bluish-gray, with the three outer tail-feathers with most of the web white, also a small white spot on the end of the fourth feather. Crown and under parts, from breast to vent, orange. A broad black patch extends from the bill through and behind the eye. Chin, throat, and fore-part of the breast black. A yellow stripe, commencing under the bill, extends back between the black eye- and breast-patches, and increases in width upon the shoulder. Length, 4.50; wing, 2.50; tail, 2.00. Measurements from the mounted bird."

The measurements of the two birds are as nearly identical as is possible when one bird is mounted and the other a skin. Of its habitat, the plumage of the female, and its nesting peculiarities, we can only conjecture, but it seems not unreasonable to presume that its habitat is similar to that of its near congener, *H. pinus*, and that New Jersey may some day produce its nest and eggs, as it has already produced the only two known specimens of the bird.

The female, I believe, will be found to be not unlike that of *H. pinus*, and a close inspection of supposed specimens of the latter bird now in collections may develop some interesting facts.

In conclusion it may be well to add, what by inadvertence I omitted when the description was first published, namely, that for the correct delineation of the bird in the plate I am indebted to Mr. Robert Ridgway, of the Smithsonian Institution, to whom I take this opportunity of tendering my thanks.

NOTICE OF A FEW BIRDS OF RARE OR ACCIDENTAL OCCURRENCE IN NEW ENGLAND.

BY H. A. PURDIE.

The following data respecting the occurrence of the following fourteen species so far to the northeastward as New England are of special interest. I am indebted to Messrs. Frederic T. Jencks of Providence, R. I., Erwin I. Shores of Suffield, Conn., F. C. Browne of Framingham, Mass., and J. N. Clark of Saybrook, Conn., for facts relating to eleven of the birds here mentioned.

1. **Polioptila cærulea.** Blue-gray Gnatcatcher. — Mr. Jencks writes: "Two were shot at Wauregan (Windham County), Conn., by

Mr. C. M. Carpenter, — a male in 1874 and a female in 1876. Three or four were seen by me at Providence, R. I., May 23, 1875."

A male was also shot, by Mr. Shores, at Silver Spring, near Providence, June 24, 1875, and several others have been seen by him at different times in Providence and vicinity.

2. **Helmitherus vermivorus.** Worm-eating Warbler. — Mr. Shores shot a male at Suffield (Hartford County), Conn., August 22, 1874. This is, I think, its most northerly record in the Atlantic States yet noted.

3. **Helminthophaga celata.** Orange-crowned Warbler. — Mr. Jencks writes me that "a specimen was shot in Cranston, R. I., December 3, 1874." This is the fifth specimen reported for New England, and the second taken in the winter season.*

4. **Dendrœca cærulea.** Blue Warbler. — A male was obtained by Mr. Shores at Suffield, June 12, 1875. This species and *Polioptila cærulea*, though previously recorded as occurring in New England, have not been recently taken here.

5. **Myiodioctes mitratus.** Hooded Warbler. — A male was shot at Suffield, Conn., by Mr. Shores, July 8, 1875. This bird, though found regularly along the Sound shore of Connecticut, has not been noticed so far northward before in New England. This, as well as a few other species characteristic of the Carolinian Fauna, will probably be found to extend up the river-valleys of Connecticut, though not passing farther eastward.

6. **Pyranga æstiva.** Summer Redbird. — Mr. Jencks informs me that a male was shot a few years since on Ten-Mile River, six or eight miles northeast of Providence. It has appeared before, but is sufficiently rare here to merit notice.

7. **Stelgidopteryx serripennis.** Rough-winged Swallow. — A female of this species was shot at Suffield, Conn., by Mr. Shores, June 6, 1874. At last this bird has been taken within our limits. It will be interesting to determine whether it proves to be in future a regular visitant to New England.

8. **Collurio ludovicianus** var. **excubitoroides.** White-rumped Shrike. — A typical example of this variety was shot by Mr. Jencks in Cranston, R. I., September 2, 1873, and is now in his collection. Its previous record of having been found within our borders is somewhat doubtful. I believe it is hardly found regularly much east of Buffalo, N. Y. In this connection I would say that the *Collurio* taken in Massachusetts, recorded by me in the "American Naturalist" (Vol. VII, 1873, p. 115), was a typical "Loggerhead" Shrike (*C. ludovicianus*).

9. **Milvulus forficatus.** Swallow-tailed Flycatcher. — Mr. Jencks informs me that a specimen of this species was shot by Mr. Carpenter, at

* See this Bulletin, Vol. I, p. 94, for its previous New England record.

Wauregan, Conn., about April 27, 1876. The bird first attracted Mr. Carpenter's attention by its opening and closing the tail while flying about a small sheet of water in quest of insects. The only other Eastern United States capture of this species is a male taken at Trenton, N. J., a few years ago, as recorded by Dr. C. C. Abbott.* Of course its appearance here is entirely accidental.

10. **Porzana jamaicensis.** Black Rail. — I have lately seen a skin of this species belonging to Mr. Browne, of Framingham. The bird was picked up dead, in August, 1869, by a relative of his, on Clark's Island, Plymouth Harbor, and was forwarded to him as something entirely new to our shores. This instance adds a new bird to the Fauna of Massachusetts.

Of this species Mr. Clark, of Saybrook, Conn., also writes me that a neighbor of his, while mowing at that place, July 10, 1876, swung his scythe over a nest of ten eggs on which the bird was sitting, unfortunately cutting off the bird's head and breaking all but four of the eggs. The only previous New England record of this species is that given by Dr. Brewer (Proc. Bost. Soc. Nat. Hist., Vol. XVII, p. 477).

11. **Rallus longirostris.** Clapper Rail. — In the Natural History store of Brewster & Knowlton, Boston, I recently saw a mounted specimen of this species. The bird was captured by its flying on board a vessel in the harbor, May 4, 1875. Though recorded from Maine and Connecticut, it being in the latter probably quite a regular summer visitor (about the Sound), I believe its appearance before in Massachusetts has been questioned.

12. **Rallus elegans.** King Rail. — In the collection of Mr. George O. Welch, of Lynn, Mass., is a mounted specimen shot at Nahant, November 21, 1875. This is a second species new to Massachusetts, and has been but once or twice before recorded from any part of New England.

13. **Sterna fuliginosa.** Sooty Tern. — Mr. Clark informs me that he has this species in his collection, mounted from a bird that last summer flew against the side of the steamboat-wharf depot at Saybrook, Conn. Stunned by the concussion, it fell and was picked up. It had been noticed for several days flying about the mouth of the river as something unusual.

14. **Pelecanus trachyrhynchus.** White Pelican. — At the Natural History store of Mr. A. J. Colburn, Boston, I saw, a few months since, a skin of this species, freshly made up from the flesh. The bird was shot at North Scituate, October 6, 1876, by Mr. George Pratt. It was a male, in fine plumage and good condition. Though not new to the State, I think its presence with us worthy of notice.

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* Amer. Nat., Vol. VI, p. 367.

Recent Literature.

NOTICES OF FIVE RECENT ORNITHOLOGICAL PAPERS. — The first three numbers of the "Proceedings of the Zoölogical Society of London" for 1876 contain several important papers upon the anatomy and classification of several groups of birds, by Mr. A. H. Garrod, while among the numerous other ornithological articles of more or less special interest are papers by Mr. Howard Saunders, on the Skau Gulls and on the Terns; by Messrs. Sclater and Salvin, on the *Anatidæ* of "Neotropical" America; an abstract of a memoir by Mr. W. K. Parker on Ægithognathous birds; and a paper by Mr. W. H. Hudson on the habits of some of the Rails of the Argentine Republic. Among the numerous new species of birds figured and described are quite a number from the Andean Region of South America.

Among Mr. Garrod's contributions is a short paper (l. c. pp. 275–277) on the anatomy of the Courlan (*Aramus scolopaceus*). He finds it to have, on the whole, decidedly closer affinities with the Cranes (*Grus*) than with any other group, especially in respect to its osteology, notwithstanding its many external resemblances to the Rails. Hence Mr. Garrod's researches confirm the views of recent systematists in respect to the affinities of this peculiar and interesting form. Mr. Garrod also writes (l. c. pp. 335–345, pls. xxvi–xxviii) concerning the anatomy of the Darter (*Plotus anhinga*), a bird whose anatomy, aside from its skeleton, had previously received little attention. Mr. Garrod finds in its visceral anatomy several quite peculiar features, one of which is the protection of the pyloric orifice by "a mat of lengthy hair-like processes, much like cocoanut fibre, which nearly half fills the second stomach." These hair-like fibres are found to considerably resemble in structure true cutaneous hairs. In general terms, the Darter may be said to present many of the features characteristic of the Gannets, Pelicans, and their allies, in an exaggerated degree.

The most important and interesting of Mr. Garrod's contributions is a paper "On some Anatomical Characters which bear upon the Major Divisions of the Passerine Birds" (l. c. pp. 506–519, pls. xlviii–liii). Mr. Garrod attaches great importance to the mode of insertion of one of the muscles of the wing (the *tensor patagii brevis*), to the character of the syrinx, the absence or presence of either the femoral or the sciatic artery, etc., to which points the researches here detailed are mainly directed. He concludes his paper with a tabular arrangement of the larger groups of the Passeres, expressive of his views of their affinities.

Mr. Howard Saunders's paper (l. c. pp. 317–332, pl. xxiv) on the Skau or Jager Gulls (*Stercorariinæ*) is devoted to the synonymy and range of the species, with incidental remarks on their progressive changes of plumage. Mr. Saunders recognizes six species, all of which he refers

to one genus, for which he adopts the name *Stercorarius* as being the only proper and tenable one. Two of these species belong to the Southern Hemisphere, the other four to the Northern, all of which latter occur in the boreal parts of North America, as well as in the Old World. The nomenclature adopted by Mr. Saunders for two of the Northern species differs from that commonly employed, Mr. Saunders maintaining, and apparently with good reason, that the Linnæan name *parasiticus* belongs not to the bird commonly so called, but to the bird usually called *cepphus* or *buffoni*. Thus *Stercorarius crepidatus* Saunders is the *S. parasiticus* of Coues and most recent authors, while the *S. parasiticus* Saunders is the *S. buffoni* of Coues and others, which is again the *S. cepphus* of Gray and other writers.

Mr. Saunders's paper on the Terns (l. c. pp. 638–672, pl. lxi) is similar in character to that on the Jager or Skau Gulls, treating mainly of nomenclature and distribution, being, like the other, preliminary to a monograph of the *Laridæ*. The genera recognized are *Hydrochelidon*, *Sterna*, *Nœnia*, *Gygis*, and *Anous*. Of the forty-eight species recognized, thirty-eight are placed under *Sterna*. The most noteworthy change of names among the North American species is the substitution of the name *fluviatilus* of Naumann for the hitherto almost universally accepted *hirundo* of Linnæus for our Common Tern, which name he considers as originally embracing both the *hirundo* and the *macrura* of recent authors. The *Sterna portlandica* of Ridgway is referred to *S. macrura*, in accordance with Mr. Brewster's views, and the Least Tern is considered as specifically distinct from *S. superciliaris*, of which Dr. Coues deems it to be merely a variety. In most other cases Mr. Saunders's names as respects the North American species agree with those recently adopted by Dr. Coues in his "Birds of the Northwest."

Messrs. Sclater and Salvin's "Revision of the Neotropical Anatidæ" (l. c. pp. 358–412, pl. xxxiv) is a most valuable synopsis of the Ducks and Geese of Middle and Southern America, and embraces also a large proportion of the species of North America, including as it does all that reach Tropical America in their migrations. The paper includes notices of sixty-two species, of the greater part of which are given short descriptions, accompanied by pretty full lists of bibliographical references. Twenty-three of the species are considered as "Nearctic," leaving thirty-nine as properly "Neotropical." The paper closes with a very convenient tabular synopsis of the geographical distribution of the genera and species. — J. A. A.

Vennor's Rapacious Birds of Canada. — With the title "Our Birds of Prey; or, The Eagles, Hawks, and Owls of Canada," by Henry G. Vennor, Messrs. Dawson Brothers have published an elegant royal octavo volume of one hundred and fifty-four pages, with thirty photographic illustrations. While these illustrations are probably as excellent as the photo-

graphic art can supply, they cannot be regarded as a very valuable addition to the work, certainly not in proportion to their cost. They do not supply those shades of tinting so essential to the student, and, being necessarily taken from mounted specimens, cannot remedy the inevitable shortcomings of their models. The text, which is largely compiled from the notes of other writers, gives a fairly digested summary of the individual history of each species.

Mr. Vennor includes two forms of Gyr-falcons, the *candicans* and the *labradora* of Audubon, but adds nothing of moment to our knowledge of the history of the former, and does not include, except inferentially, *Hierofalco islandicus* as among the birds of Canada. He gives, as a separate form, the dark Gyr-falcon, described by Audubon as *labradora*, but he is mistaken in several of his statements in regard to this variety. It is probably not so very rare a bird as has been supposed, although it is little known in North American collections. The supposition that the two specimens in the Montreal Museum are the only ones known in all North America is incorrect. Mr. Boardman of St. Stephen possesses at least two very fine specimens, the Boston Museum has a very fine one, and there is at least one in the National Museum of Washington. Nor is Mr. Vennor the first to represent, in plate, this species (or variety ?).

In the "Ornithological Miscellany," edited by Mr. George Dawson Rowley, and published by Trubner & Co., of London, Mr. Henry E. Dresser presented a very interesting memoir of this Hawk, accompanied with a very fine illustration. I am not aware that any copy of this work is in this country, and the writer can only refer to it from memory. From this it would appear that for several years past collections of skins received in Europe from Labrador have always contained skins of this bird. One of the museums of Germany was especially fortunate in securing a fine series of this bird, and Mr. Dresser, having learned the source from which it had been enriched, has himself since procured several very fine specimens. So far as is known it seems to be confined to Labrador, and its specific peculiarities, if it has any, are not publicly known. At present we know too little in regard to it to discuss the question whether it is to be regarded as a species or a race, or whether it may not be a melanistic form. It is much more distinct, in its external markings, from any of the three other forms, *gyrfalco*, *islandicus*, and *candicans* than they are from one another, and, so far as is known, there is much less variation in the markings of individuals. The writer has no doubt that the birds referred to (North American Birds, Vol. III, p. 311), under the supposition that they belonged to the Black Rough-legged Hawks, were really of this group.

In this connection it may be mentioned that Mr. Dresser refers the form of *Hierofalco* found on Anderson River, not to *H. candicans*, but to the more common Norway form of *H. gyrfalco*. — T. M. B.

General Notes.

A Humming-Bird new to the Fauna of the United States. — I have again the pleasure of adding another bird new to our Fauna. A Humming-Bird (male), taken within the limits of Fort Brown, Texas, August 17, 1876, and forwarded to the Smithsonian Institution for identification, has just been determined to be *Amazilia cerviniventris*. It much resembles *Pyrrhophæna rieffri*, and has rusty (instead of white) leg puffs. — James C. Merrill, *Fort Brown, Texas*, December 4, 1876.

Note on Podiceps dominicus.* — This species was long since attributed (perhaps erroneously) to "California," by Dr. William Gambel; it was included by Baird among Birds of the Mexican Boundary, apparently on strength of its eggs found at Matamoras, and figured in his "Birds of North America" (ed. of 1860, not of 1858). It was also formally presented by me as North American (Birds of the Northwest, p. 736, where its habitat is given as north of the Rio Grande). — Elliott Coues.

Eastward Range of the Ferruginous Buzzard (*Archibuteo ferrugineus*). — During the past summer (1876) I found this bird to be common on the prairies of Nebraska and Wyoming, where it might almost be considered as one of the characteristic species. In 1873 I observed it on the Pembina Mountains, in Eastern Dakota, near the Red River of the North; and in 1874 I found it nesting in Northern Montana, on one of the Two Forks of Milk River. In years previous I had only seen it in Arizona and Southern California. I can now record its range still farther eastward, — beyond the Mississippi, as I lately saw one in Illinois, a few miles from the river. The great size of the bird, its white tail, almost as conspicuous as that of the Bald Eagle, and white under parts, render it unmistakable at any ordinary distance. Its geographical distribution is apparently nearly coincident with that of the Lanier Falcon (*Falco polyagrus* Cass.), a bird which I have also found very numerous in Nebraska, Wyoming, and open portions of Colorado. Both species are *prairie* Hawks, subsisting largely or chiefly upon the small rodent mammals which abound in such regions. — Elliott Coues, *Washington, D. C.*, October, 1876.

Occurrence of Leconte's Bunting (*Coturniculus leconteï* Bon.) in Iowa. — One of my correspondents, Mr. E. W. Newton, of Franklin Grove, Ill., writes me that when on a recent collecting trip through Iowa, he had the good fortune to secure twenty-two specimens of this species in a small slough situated in Colo, Story County, near the centre of the State, one of which he kindly sent me for identification. The date of cap-

* See this Bulletin, Vol. I, p. 88, November, 1876.

ture recorded on the label is October 10, 1876. Although he hunted carefully over equally desirable situations in other parts of the State, this was the only place where it was found. This forms its most eastern record, excepting the single specimen taken by Mr. E. W. Nelson at Riverdale, Ill.* — H. B. Bailey.

Audubon's Warbler in Massachusetts. — While collecting in the neighborhood of Cambridge, Mass., November 15, 1876, I was fortunate enough to obtain a fine specimen of Audubon's Warbler (*Dendræca auduboni*). It was a male, and the yellow of the throat was very plainly marked. Dr. Coues, in his "Birds of the Northwest," gives Laramie Peak as about the eastern limit of this species. Its occurrence here must, of course, be regarded as entirely accidental. — A. M. Frazar.

Occurrence of the Sooty Tern in Massachusetts. — In Mr. Allen's "Catalogue of the Birds of Massachusetts" we find the Sooty Tern (*Sterna fuliginosa*) given, on the authority of Mr. E. A. Samuels, as a rare summer visitor to Muskegat Island. But for some reason Dr. Brewer, in his recent "Catalogue of the Birds of New England," withdraws this species from the New England list, and challenges its right to be regarded as in any sense a New England bird. I have the pleasure of replacing this species by recording the capture of a fine adult male on the Merrimack River near Lawrence, Mass., on October 29, 1876. I examined the specimen at the store of Mr. Charles I. Goodale, taxidermist, who has finely preserved it, and it is now in the possession of Mr. A. W. Howland of Lawrence. — Ruthven Deane.

The Black Gyr-Falcon (*Falco sacer* var. *labradora*) in Massachusetts. — A fine specimen of this Falcon was shot on Breed's Island during the latter part of October, 1876. It proved to be a male, in nearly adult plumage, and is now in the collection of Mr. C. I. Goodale, through whose kindness I have had the pleasure of examining it. — C. B. Cory.

Notes on Birds new to the Fauna of Maine, etc. — Of the following five species, three are here for the first time recorded as birds of Maine, another as found for the first time so far in the interior, and another as found for the first time breeding on the New England coast.

1. **Ammodromus caudacutus** *Swain.* Sharp-tailed Finch. — I have found this species, now, I believe, for the first time recorded as a bird of Maine, a rare inhabitant of a certain part of the great marsh in Scarborough.

2. **Passerculus princeps** *Maynard.* Ipswich Sparrow. — On the 9th of October, 1876, I met with one of these birds on a sandy point on the northwest shore of Lake Umbagog, in New Hampshire. I should hesitate

* See Bulletin of the Nuttall Ornithological Club, Vol. I, p. 40.

to record the occurrence of this species in a locality so far removed from its known haunts, it not having been before observed so far in the interior, since, from the miss-fire of two cartridges in succession, I failed to capture my bird, were I not perfectly acquainted with its almost unmistakable habits.

3. **Strix flammea** var. **pratincola** *Bonap.* BARN OWL. — Mr. L. C. Daniels, of this city (Portland), has in his possession a specimen of this owl which he shot in Falmouth, June 10, 1866. It was killed while flying across an open field. It has not, I think, been before recorded as found in Maine.

4. **Tringa bairdii** *Coues.* BAIRD'S SANDPIPER. — My brother, Mr. Philip G. Brown, shot a young male of this species as it was flying along Scarborough Beach, on September 9, 1875. It was in company with another bird, apparently of the same species, which escaped. This is its first recorded appearance on the coast of Maine.

5. **Thallassidroma leachii** *Bonap.* LEACH'S PETREL. — This Petrel breeds in large numbers on several of the outer islands of Casco Bay, southeast of Portland. Although I have often been told by fishermen and sportsmen of the existence of colonies of these birds on certain of our islands, I never was able to verify their reports until the middle of last August, when I made three visits to two barren rocks known as the "Green Islands," once in company with Mr. E. N. Atwood of Cape Elizabeth. I found about forty nests, half of which at this late date were empty, the remainder containing squabs in different stages of development. — NATHAN CLIFFORD BROWN, *Portland, Me.*, November 12, 1876.

NORTHERN RANGE OF THE SHARP-TAILED FINCH (*Ammodromus caudacutus*). — My friend, Mr. William Stone of Cambridge, has recently presented me with five specimens of the Sharp-tailed Finch which he shot at Tignish, Prince Edward's Island, on August 2 and 3, 1876. The locality where they were taken, as he describes it to me, was exceptional, — a wide waste of marsh, dry, and at some distance from the sea, grown up to bushes, with a few scattered dead pine stubs, remnants of a former forest. Throughout this tract these birds were abundant, the males singing on all sides from the tops of the bushes. The individuals examined are all adults in very pale, worn breeding plumage. Dr. Coues, in his "Birds of New England" (Proc. Essex Inst., Vol. V, p. 282), gives *Ammodromus maritimus* as occurring at Rye Beach, New Hampshire, but this record, he informs me by letter, was a mistake, the bird which he found there being *A. caudacutus*. The finding of the Sharp-tailed Finch in numbers at Tignish, taken in connection with the fact of its recent detection at Scarborough, Me., by Mr. N. C. Brown [see above], renders it extremely probable that it may occur regularly, at suitable localities, all along the intermediate line of coast. — WILLIAM BREWSTER.

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB.

Vol. II. APRIL, 1877. No. 2.

CORRECTIONS OF NOMENCLATURE IN THE GENUS SIURUS.

BY DR. ELLIOTT COUES, U. S. A.

THE genus itself, and all three of its species, require names different from those now generally used.

1. NAME OF THE GENUS. — Originally written SEIURUS by Swainson, who invented the term; also found under the forms *Sciurus*, by ignorance, inadvertence, or typographical blunder, and *Siurus*, the latter being correct. The word is compounded of the Greek σειω, "I wave or brandish," and οὐρον, "tail"; it is precisely equivalent to the Latin *mota-cilla*, French *hoche-queue*, English *wag-tail*. According to the rule that Greek ει becomes long *i** in Latin, the word should be spelled *Siurus*, as was first done, I think, in the Ibis for 1859, by Messrs. Sclater and Salvin, and A. and E. Newton, so nearly simultaneously that I do not know to which of these scholars we owe the corrected orthography. *Seiurus* has been objected to on account of its identity in sound, though not in orthography, etymology, or signification, with *Sciurus*, "a squirrel," by German purists, who have proposed to substitute *Enicocichla* or *Henicocichla*; but this is inadmissible: *Siurus* and *Sciurus* being as different as *thee*, objective case of second personal pronoun, and *the*, definite article.† (Lat. *Sciurus* = Gr. σκιουρος = "shadow-tail.")

* So, also, *Melopelia*, *Chamæpelia*, *chrysoparia*, etc. (accent the penult), instead of *Melopeleia*, *Chamæpeleia*, *chrysopareia*, etc.

† I am not of those rigid constructionists who require preservation of the original shape of a name, however faulty. While we cannot of course make actual substitution of one name for another without other than philological

2. Name of the Golden-crowned Thrush. — Originally and usually written *aurocapillus*, which should give way to *auricapillus*. The word means simply "gold-hair," i. e., "golden-haired." The point is here: that the ablative of *aurum*, "gold," which is *auro*, is only to be used when the word with which it is compounded is an adjective or participial; otherwise *auri* is the correct form. If we were to employ the participial adjective *capillatus*, it would be correct to say *aurocapillatus*, i. e., literally and correctly, "haired with gold," *auro* being the *ablativus instrumenti*, that with or by means of which the bird is "haired." So we say rightly *auricristatus*, *aurostriatus*, *auropunctatus*, crested, streaked, or speckled *with* gold, (color understood), but *auriceps*, *auricollis*, *Auriparus*, etc. So also, if we were to compound with the adjective *aureus*, "golden," we should say, e. g., *aureicauda*, not *aureocaudatus*. Either *aureicapillus* or *auricapillus* is correct, but *aurocapillus* is not.

3. Name of the Small-billed Water-Thrush. — It is to be noted that *Motacilla noveboracensis* of Gmelin, 1788, is precisely the same as *Motacilla naevia* of Boddaert, 1783, both being based upon Planche Enluminée 752, fig. 1, which is the *Fauvette tachetée de la Louisiane* of Buffon, afterward the *New York Warbler* of Pennant and Latham. G. R. Gray seems to have observed this fact, but neither he nor any other author, according to my recollection, has acted upon the obvious requirement of the case, namely, that we must say *Siurus naevius* (Bodd.), instead of *S. noveboracensis* (Gm.). Very curiously, Gmelin in another place made this species out to be a variety of the Cape May Warbler, *Perissoglossa tigrina*; for, Gmelin's *Motacilla tigrina* var. β (and so, also, Latham's *Sylvia tigrina* var. β) is based exclusively upon the *Ficedula dominicensis fusca* of Brisson, Ornith., iii, 513, which is the Small-billed Water-Thrush. Vieillot, in 1807, noticed this curious circumstance, which authors have generally overlooked, and correctly allocated the synonymy. The name *naevius* is unobjectionable, has priority, and must obtain.

4. Name of the Large-billed Water-Thrush. — This is properly *Siurus motacilla* (Vieill.), Bp., for the *Turdus motacilla*, accurately described and recognizably figured by Vieillot in 1807, is unques-

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reason, common sense certainly tells us to spell correctly if we can. If we are always to preserve the original forms of names, we must, for example, say *Scopolax* instead of *Scolopax* — it so stands in Linn. Syst. Nat. i, 1766, p. 242.

tionably this species. Vieillot knew the other species, which he figured and described in the same work. Bonaparte called it *Seiurus motacilla* in 1850, though in 1824 he had called the other species *Turdus motacilla*, and Cabanis, in 1857, *Henicocichla motacilla;* but writers have usually adopted Audubon's term *ludovicianus*, proposed in 1832, notwithstanding that this author soon abandoned his species, under the wrong impression it was not different from *S. noveboracensis*. "*Siurus motacilla*" is not a very choice name, meaning "wagtailed Wagtail," but it is no worse than *Mus musculus*, *Xanthocephalus icterocephalus*, *Columba palumbus*, *Regulus satrapa*, and a host of other names, the two terms of which mean the same thing; nor as bad as *Sialia sialis*, *Cupidonia cupido*, the sense and sound of which agree.

I append the synonymy of the species of this genus, the list of names here to be given being much more accurate, more extensive, and more nearly complete than any hitherto collated:

1. Siurus auricapillus.

Motacilla aurocapilla, Linn., Syst. Nat. i, 12th ed. 1766, 334, No. 29 (based on Brisson and Edwards, as below cited).

Turdus aurocapillus, Lath., Ind. Orn. i, 1790, 328, No. 6.

Sylvia aurocapilla, Bonap., Journ. Philada. Acad. iv, 1824, 35.

Seiurus aurocapillus, Swains., Philos. Mag. i, 1827, 369; Zoöl. Journ. iii. 1827, 171.

Sciurus aurocapillus, D'Orbig., Ois. Cuba, 1839, 55.

Siurus aurocapillus, Scl. & Salv., Ibis, i, 1859, 9. — A. & E. Newt., ibid. 142.

Enicocichla aurocapilla, "Gray." (Reference not at hand as I write.)

Enicocichla aurocapillus, Brewer, Proc. Bost. Soc. N. H. vii, 1860, 306.

Henicocichla aurocapillus, Caban., Mus. Hein. i, 1850, 16.

Turdus auricapillus, Licht., "Preis-Verz. Mex. Vög. 1830, 2"; Journ. f. Orn. 1863, 57. (Orig. ref. not verified by me.)

Accentor auricapillus, Rich., Rep. Brit. Assoc. for 1836, 1837, 172.

Seiurus auricapillus, Bonap., Consp. Av. 1850, 306.

Henicocichla auricapilla, Sclat., Proc. Zoöl. Soc. 1856, 293.

Siurus auricapillus, Coues, Birds Colorado Valley, 187–, (*MSS. ined.*).

Turdus citreus, ??? Müller, Syst. Nat. Suppl. 1776, 141 (very problematical).

Motacilla canadensis, Boddaert, Tabl. Pl. Enl. 1783, 24 (*in part;* the first ref., to P. E. 398, f. 2, and the ref. to Edw. Gl. 252, are to this sp., but the other refs. are to *Dendroeca coronata*).

Turdus minimus, Bartr., Trav. Fla., 1st Am. ed. 1791, 290bis (not of Lafr., nor of authors).

Turdus coronatus, VIEILL., Ois. Am. Sept. ii, 1807, 8, pl. 64.
Anthus coronatus, GERHARDT, Naumannia, iii, 1853, 38.
Ficedula pensilvanica aurocapilla, BRISS., Orn. iii, 1760, 504, No. 57.
Figuier à teste d'or de pensilvanie, BRISS., *op. loc. cit.*
Golden-crowned Thrush, EDW., "Glean. 91, pl. 252." (Not verified by me.)
Grivelette de S. Domingue, BUFF., "Hist. Nat. Ois. iii, 317." (Not verified by me.)
Petite Grive de St. Domingue, of Planche Enlum. 398, f. 2 (see the citation of Boddaert, above).
Grive couronnée, VIEILLOT, *op. loc. cit.*
Land Kick-up, GOSSE, B. Jam. 1847, 152.
Golden-crowned Accentor, Golden-crowned Wagtail, Orange-crowned Accentor, Oven-bird, of AUTHORS.

2. Siurus nævius.

Motacilla nævia, BODD., Tabl. 1783, 47 ; based on Pl. Enlum. 752, f. 1.
Siurus nævius, COUES, Birds Colorado Valley, 187–, (*MSS. ined.*).
Motacilla noveboracensis, GMEL., Syst. Nat. 13th ed. 1788, 958, No. 69 (based primarily on P. E. 752, f. 1 = *nævia* Bodd.).
Sylvia noveboracensis, LATH., Ind. Orn. ii, 1790, 518, No. 33.
Turdus noveboracensis, ... ? — PEABODY, Rep. Orn. Mass. 1839, 306.
Turdus (Sciurus) noveboracensis, NUTT., Man. Orn. orig. ed. i, 1832, 353.
Seiurus noveboracensis, BONAP., Comp. and Geog. List. 1838, 21.
Siurus noveboracensis, SCL. & SALV., Ibis, i, 1859, 10. — A. & E. NEWT., ibid. 142.
Seiurus noveboracensis, HENSHAW, App. LL. Ann. Rep. Chf. Engr. U. S. Army, for 1875, p. — (p. 59 of sep. paged pamph. List B. Arizona).
Enicocichla noveboracensis, "GRAY." (Ref. not at hand; probably Gen. of B.)
Henicocichla noveboracensis, CABAN., "Schomb. Guiana, iii, 1848, 66"; Mus. Hein. i, 1850, 16.
Motacilla novæboracensis, TURTON, Syst. Nat., English mal-version, i, 1806, 589.
Turdus (Sciurus) novæboracensis, NUTT., Man. 2d ed. i, 1840, 402 (in part; includes another species).
Seiurus novæboracensis, ... ? — PRATTEN, Trans. Illinois Agric. Soc. i, 1855, 601.
Sciurus novæboracensis, PUTNAM, Proc. Essex Inst. i, 1856, 209.
Motacilla tigrina var. β, GM., Syst. Nat. 13th ed. i, 1788, 985, No. 153 β (= Briss. iii, 513, No. 62, pl. 28, f. 5).
Motacilla tigrina, 2, TURTON, *op. loc. cit.*
Sylvia tigrina var. β, LATH., Ind. Orn. ii, 1790, 537, No. 110 β (= Gm. No. 153 β).
Motacilla fluviatilis, BARTR., Trav. Fla. 1st Am. ed. 1791, 291.
Turdus aquaticus, WILS., Am. Orn. iii, 1811, 66, pl. 23, f. 5.

Seiurus aquaticus, Sw. and RICH., Fn. Bor. Am. ii, 1831, 229, pl. 43.
Turdus aquatius, BONAP., Journ. Phila. Acad. iv, 1824, 34.
Sylvia anthoides, VIEILL., "Nouv. Dict. d'Hist. Nat. 1817, 208." (Not verified by me.)
Turdus motacilla, BONAP., Journ. Phila. Acad. iv, 1824, 35 (not of Vieill.).
Seiurus tenuirostris, SWAINS., Philos. Mag. i, 1827, 369.
Sciurus tenuirostris, GAMB., Proc. Phila. Acad. i, 1843, 261.
Sciurus sulfurascens, D'ORB., Ois. Cuba, 1839, 57, pl. 6.
Enicocichla sulphurascens, "GRAY."
Seiurus sulphurascens, BONAP., Consp. Av. i, 1850, 306.
Henicocichla sulphurascens, GUNDL., Journ. für Orn. 1855, 471.
Anthus Therminieri, LESSON, "Rev. Zoologique 1839, 101." (Not verified by me.)
Seiurus gossii, BONAP., Consp. Av. i, 1850, 306.
Fauvette tachetée de la Louisiane, BUFF., "Hist. Nat. Ois. v, 161"; Pl. Enlum. No. 752, f. 1 (is the basis of Bodd.'s and Gm.'s names).
Figuier brun de S. Domingue, BRISS., Orn. iii, 1760, 513, No. 62, pl. 28, f. 5 (obviously this sp.; sole basis of *Mot. tigrina* var. β, Gm.).
Ficedula dominicensis fusca, BRISS., *op. loc. cit.*
New York Warbler, LATH., Syn. ii, pt. ii, 1783, 436, No. 29 (= *Mot. noveboracensis* Gm.).
Spotted Yellow Warbler, var. A, LATH., Syn. ii, pt. ii, 1783, 483, var. A (= *Sylvia tigrina* var. β, Lath.).
Fauvette brune, V., O. A. S., *l. s. c.*
Bessy Kick-up, River Pink, GOSSE, B. Jam. 1847, 151 (basis of *S. gossii* Bp.).
Grive de rouisseaux, ou *Hochequeue*, LE MOINE, Ois. Canad. 1861, 173.
Water Thrush, New York Water Thrush, Aquatic Wagtail, Aquatic Wood-Wagtail, Aquatic Accentor, of AUTHORS.

3. Siurus motacilla.

Turdus motacilla, VIEILL., Ois. Am. Sept. ii, 1807, 9, pl. 65 (not of Bp., 1824).
Seiurus motacilla, BONAP., Consp. Av. i, 1850, 306.
Henicocichla motacilla, CAB., Journ. für Orn. 1857, 240.
Siurus motacilla, COUES, Birds Colorado Valley, 187–, (*MSS. ined.*).
Turdus ludovicianus, AUD., Orn. Biog. i, 1832, 99, pl. 19 (afterward merged in *S. noveboracensis*).
Seiurus ludovicianus, BONAP., Comp. Geogr. List. 1838, 21.
Siurus ludovicianus, SCLAT., P. Z. S. 1859, 363.
Sciurus ludovicianus, TRIPPE, Proc. Bost. Soc. xv, 1873, 234.
Henicocichla ludoviciana, SCLAT., Cat. Am. B. 1860, 25.
Henicocichla major, CABAN., Mus. Hein. i, 1850, 16.
Enicocichla major, BREWER, Proc. Bost. Soc. Nat. Hist. vii, 1860, 306.
Grive hochequeue, VIEILL., *l. s. c.*
Louisiana or Large-billed Water Thrush, AUTHORS.

NOTES ON THE BREEDING OF THE BLACK TERN (*HYDROCHELIDON LARIFORMIS*) IN MINNESOTA.

BY T. S. ROBERTS.

The Black Tern is the most abundant representative of its family in this State, making its appearance in the vicinity of Minneapolis about the middle of May. Stragglers remain until the first week in September, but the majority leave during the latter part of August. For a short time after their arrival they are to be seen flying leisurely around the larger lakes; but as the nesting-season approaches they select some prairie slough or marshy lake, and there spend the greater part of their time until the young are able to fly. Late in May or early in June the nest is built and the eggs are laid, or the eggs are deposited without any nest, as the case may be. Dr. Coues mentions (Birds of the Northwest, 1874) meeting with a colony breeding along the Red River, and states that there were no nests whatever, the eggs being placed on beds of decaying reeds. Such is their habit under some circumstances, but only two instances of the kind have come under my notice as yet. Once, I found three eggs laid directly on the mud on an abandoned, broken-down muskrat house in the midst of a large slough. The same day I found another set of two eggs on a bed formed by the bending over of the tops of some tall dead grass. They were thus raised more than a foot above the water, which was of considerable depth. There was no indication of a nest, the eggs being held in place by resting among the coarse grass. A very interesting and valuable note on this subject occurs in a short article by Dr. P. L. Hatch, published in the Bulletin of the Minnesota Academy of Natural Sciences for 1876. It is an extract from a letter written by Mr. E. W. Nelson of Chicago, and although the observations were not made in this State, I will introduce them here: "I have seen the eggs of *Sterna plumbea* deposited on masses of floating weeds in several instances, but only for the *third* brood, the bird having previously built two nests and deposited the eggs in both, which had been removed by myself to ascertain how many they would lay. The result was almost invariably as follows: first nest, three eggs; second nest, two eggs; and the third, one egg. In

several instances I found the nests floating in two and a half to three feet of water without the least sign of floating rushes in the vicinity; in fact, there were no rushes or anything else except fine swamp grass growing anywhere near, and of this the nests were built."

As already stated, they build in this section (vicinity of Minneapolis) in the latter part of May or early in June, usually placing the nest in a prairie slough or marsh bordering an open pond. The material used in the construction is short bits of grass and reeds disposed in such a manner that a neat, but loose structure is formed. Occasionally greater skill is displayed, longer material being used, which is slightly interwoven, so that the nest may even be removed alone without injuring it. These frail structures are sometimes found upon floating masses of decayed débris, and when so situated it is necessary, with but few exceptions, to detach a portion of this underlying bed in order to remove the nest intact. But they are oftener placed upon the tops of small mounds of partially decayed vegetable matter. These mounds, undoubtedly made by the Terns as foundations for their nests, are seven or eight inches in diameter, and rise one or two inches above the surface of the water. They are placed over beds of live moss, and are partly supported by the water and partly by the moss below. It takes but a slight motion of the water to rock them, and they would undoubtedly often go adrift were they not generally protected by the grass growing around them. To obtain the nest in good condition the hand may be inserted beneath the pile and the whole lifted up.

The average external diameter of the nest of this Tern is about five inches; internal diameter, three inches; while the depth varies from a slight depression to three fourths of an inch or more. The eggs are either two or three in number, perhaps oftener three than two. Their ground-color varies from deep brown to greenish white. The markings consist of blotches, dots, etc., of various shades of brown. On some specimens there are a few, and on others numerous, obscure pale spots in the shell. Frequently the markings are nearly equally distributed over the entire surface of the egg, but usually are aggregated to form a wreath around the larger end. So far as my observations have extended, all the eggs taken from one nest have about the same ground-color and character of marking. The average measurement of fifteen eggs before me is 1.35 inches in length by .98 inches in width.

During the day the parent birds sit on the nest very little, leaving the incubation of the eggs greatly to the heat from the sun and the warmth arising from the damp decaying vegetable matter upon which they rest, for the nests are almost always moist inside. When the site where a colony is breeding is approached nearer than the parent birds deem safe, they make a great clamor, and dart repeatedly at the head of the intruder, occasionally venturing within a foot or two. If the nest of a pair be removed, and the birds left to themselves, they show considerable distress at their loss. Hovering over the spot from which the nest has been taken, they utter incessant cries and frequently alight to look in vain for their lost treasure. All the Terns in the neighborhood join in the cries of the bereaved pair, and the lamentation becomes general.

I once had the fortune to meet with a young Tern of this species which had evidently entered this world but a few hours before. It was a curious-looking little creature, and could swim very well. The following description may convey some idea of its appearance: body covered with a soft, fluffy down; beneath, pale sooty; above, obscure yellow, washed with grayish, and tinged with rufous on the posterior parts of the body. Scattered over the upper parts were irregular spots of black. The under surfaces of the wings, lores, and feathers next the base of the upper mandible were white. The bill was black, with a white spot at the end of the upper mandible. Legs very dark flesh-color, with a reddish tinge.

I am of the opinion that these miniature Terns leave the nest very soon after emerging from the egg. The one just described was found swimming about several feet from the nest, while just at the time one of his brothers was working his way into the world by neatly cutting the shell into halves with the point of his bill.

As soon as the young Terns are able to fly they are conducted to some suitable situation around a pond or lake, where they can sit while the parent birds supply them with food. I once counted thirty-seven sitting thus at one time on four or five panels of fence, which extended from the shore a short distance into a lake.

MINNEAPOLIS, MINN.

TWO UNDESCRIBED NESTS OF CALIFORNIA BIRDS.

BY WILLIAM BREWSTER.

THE following nests, previously unknown to science, were collected for me by Mr. Charles A. Allen, of Nicasio, Marin County, California : —

1. CALIFORNIAN PURPLE FINCH (*Carpodacus purpureus* var. *californicus*, Baird). Two nests of this variety of the Purple Finch taken at Nicasio, Marin County, California, are before me. The first, with a set of five eggs, was collected May 10, 1876. It is a somewhat smaller structure than the nest of the Eastern bird, and is much more closely compacted. It measures externally 5.75 inches in diameter, by 2.75 in depth. Internally 2.00 inches in diameter by 1.50 in depth. The outer framework is composed of rather fine weed-stalks and coarse grasses firmly interwoven, while the inner nest is fitted smoothly and warmly with a peculiar fibrous hemp-like material of a rich bay color. This nest was found in a garden in Nicasio. It was placed in the fork of two limbs at the height of about eight feet above the ground. The eggs differ very materially from those of *Carpodacus purpureus* var. *purpureus*, and much more closely resemble eggs of the House Finch (*C. frontalis*). Their ground-color is *white* with a scarcely perceptible shade of bluish, about as much, in fact, as obtains in average eggs of the Indigo Bird (*Cyanospiza cyanea*). A very few lines and dots of black or dark brown about the larger ends constitute the only markings. They are in shape a blunted oval, and measure .73 of an inch in length by .55 in breadth. The other nest contained young, and as it was not secured until after they had left it, is in rather poor condition. It, however, agrees very closely with the one just described, and is lined with the same peculiar material. The parent bird — a male — sent with these nests is quite typical of the variety which it represents.

2. RUFOUS-CROWNED SPARROW (*Peucæa ruficeps*, Baird). — A nest of this species collected by Mr. Allen on Black Mountain, near Nicasio, July 10, 1875, presents the following features : It is outwardly composed of coarse grass and weed-stalks, and lined somewhat scantily with horse-hair. It is very loosely put together, and the original shape is so nearly destroyed that measurements are almost impracticable. An approximation would, however, be nearly as follows : External diameter, 4 inches ; internal, 2.25 inches. External depth, 2 inches ; internal, 1.25 inches. It contained three pure white eggs, which measure .89 of an inch in length by .65 in breadth. The locality was an open heathy tract on the mountain-side, and the nest was placed on the ground under a bush. Mr.

Allen, having only his rifle with him at the time, was unable to secure the female, but as she sat closely and was distinctly seen by him, there seems little reason to doubt the correctness of the identification, especially as in position of nest, color and size of eggs, etc., we find nothing incompatible with the corresponding breeding characteristics of the other and better-known species of this genus.

Mr. Allen has since informed me, by letter, that a nest satisfactorily determined as belonging to this species, and which agrees closely with the one just described, was discovered by Captain Charles Bendire in Oregon (?).

A CONTRIBUTION TO THE BIOGRAPHY OF WILSON'S PHALAROPE.

BY E. W. NELSON.

ALTHOUGH this species (*Steganopus wilsoni*, Coues) is more or less common in portions of the country frequently visited by Ornithologists, it is remarkable that its life-history should be so little known. The account of nearly every author who has mentioned the species contains more or less error, and none give anything like a complete history of it. To remedy this to some extent is the object of the present paper, since I have had abundant opportunity for observing the bird in the field.

But first I wish to make a few quotations from and remarks upon the principal accounts of the species. Ord, in his edition of "Wilson's Ornithology (Vol. III, p. 205), states as follows: "Our figure of this species [*Phalaropus lobatus*, Ord] bears all the marks of haste; it is inaccurately drawn, and imperfectly colored; notwithstanding, by a diligent study of it, I have been enabled to ascertain that it is the *Coot-footed Tringa* [Phalarope] of Edwards, pls. 46 and 143, to which bird Linnæus gave the specific denomination of *lobatus*." Thus far Ord is undoubtedly correct, as is evident by a comparison of the plates in question. As Dr. Coues has already stated (Birds of the Northwest, p. 467), *Tringa lobata*, Linn. is *Lobipes hyperboreus*, (L.) Cuv., and I perfectly agree with Ord in referring Wilson's plate to the same species; but farther on Ord describes an undoubted specimen of *Steganopus wilsoni*, taken near Philadelphia, as being identical with Wilson's plate of *lobatus*, which is certainly a bad case of mal-identification. From references I have been enabled to make, I

think it extremely doubtful that Wilson ever saw a specimen of *S. wilsoni*.

Audubon's account of the sexes of this bird is quite erroneous. Concerning a pair taken near Great Egg Harbor, in June, 1829, he states that, "on examining the birds when we returned, I saw that the female had been sitting"; * and on the opposite page, "I observed scarcely any difference in the coloring of the sexes, the female being merely larger than the male"; and he again states: "The female, which is somewhat larger, is in color precisely similar to the male." The few specimens seen by Audubon during the breeding-season were apparently all females, and, taking it for granted that the males were equally bright, he so stated. In his plate of this species he figures a "female" young of the year and an adult "male," which is, in reality, a female in breeding plumage. Audubon's statement regarding the likeness of the sexes in the breeding plumage has been accepted as true by subsequent authors, even when they have had the opportunity to settle the matter for themselves in the field.

Nuttall adds considerable to the known range of the species, but makes his statements curiously conflicting, as the following quotations show: "Taking the interior of the continent for its abode, it is seen not uncommon on the borders of lakes, in the vicinity of the City of Mexico. In these situations, choosing the shelter of some grassy tuft, it forms an artless nest, in which it deposits two or three pyriform eggs, between yellowish-gray and cream-color, interspersed with small roundish spots and a few larger blotches of umber-brown somewhat crowded towards the obtuse end." He also states that "it is unknown in summer beyond the 55th parallel, passing the period of reproduction on the plains of the Saskatchewan, being also a stranger to the coasts of Hudson's Bay"; and again, that "*in the United States it can only be considered as a straggler.*" †

Dr. Coues, in his "Birds of the Northwest," arranges the synonymy of the species in a very satisfactory manner, but makes essentially the same statement as Audubon regarding the sexual plumages, and adds nothing of importance to the life-history of the species. To Mr. A. L. Kumlien ‡ is due the credit of being the

* Birds of Amer., Vol. V, pp. 229, 230, pl. 341.

† Man. Orn., Vol. II, pp. 245, 246.

‡ Field and Forest, July, 1876.

first to announce the true relations of the sexes of this species. His statements that "the male attends to the duties of incubation almost entirely alone," and that "not only is the female much more brilliant in plumage, but also considerably larger," are certainly true, but that the females "pursue" the males during the pairing-season seems to me to be rather doubtful, unless, as might be the case, Mr. Kumlien has mistaken for this their habit of flying restlessly about the marsh in small parties of three or four individuals, when the males are usually in advance. At these times the nearest approach I have observed to pursuit is in a habit they have of suddenly darting off for a short distance at right angles to their general course, but this appears to be in mere sport, for nearly the same relative positions are kept by the birds, and this erratic course is rarely pursued beyond a few rods.

In fact, throughout the pairing-season I have always found the Phalaropes very undemonstrative toward each other, the choice of mates being conducted in a quiet, unobtrusive way, quite unlike the usual manner among birds. Neither have I ever seen the males "drop as if shot, within two feet of me, and feign the most distressing pains," when the nest is discovered; nor even when the newly hatched young have been captured do they evince any such emotion, and at no time have I ever seen any more anxiety shown by the male than by the female. Mr. Kumlien describes the nest as being built in a tussock of grass, "much in the same manner as the *Agelæus phœniceus*," which is certainly a considerable variation from the situations chosen by the birds in Northern Illinois, as a comparison of the above statement with my description of the situation of the nest will show.

My experience with the species has been to prove that during the breeding-season, at least, they are averse to any large body of water, and I have never found the young away from the midst of the grassy marshes until fully fledged. The last author before quoted, however, states that "the young are conducted to the shore soon after they are hatched, and if suddenly surprised take to the water and swim and dive with the greatest ease."

In Northern Illinois, where the following observations were made, Wilson's Phalarope is the most common summer resident, occurring about grassy marshes and low prairies, and is not exceeded in numbers by even the ever-present Spotted Sandpiper. As is the case with several other species of birds, Lake Michigan appears to form

a limit to its common occurrence in the eastern portion of its range. On the west it extends to the Rocky Mountains, and between these limits it has been recorded during the breeding-season from the Saskatchewan to the Arkansas (Coues) and to the city of Mexico (Nuttall). It is more closely confined to its favorite haunts than most water-birds, and this may, in a measure, account for the little hitherto known regarding its habits. During the first two weeks of May, the exact date varying with the season, this beautiful bird first makes its appearance in Northeastern Illinois. Its arrival is heralded by a few females, which arrive first, and are found singly about the marshes. At this time the females have a peculiar harsh note, which I have heard but a few times, and only from solitary individuals before the arrival of the main body.

A few days later small flocks, embracing both sexes, may be found along the borders of grassy pools, or lying at midday on the sunny side of some warm knoll in the marsh. As the breeding-season approaches they become more restless, flying from place to place, and finally separate into small parties of two or three pairs. About the middle of May their love-making commences, and is at first indicated by the increasing solicitude they show for each other's welfare. The appearance of a person in their vicinity at this time is the signal for all the birds near to come circling about, though generally not within easy gunshot. By a careful approach one may now and then find a small party swimming about in some secluded pool. The charming grace of movement exhibited at such times, combined with their tasteful elegance of attire, form one of the most pleasing sights one could witness, as they swim buoyantly from side to side of the pool, gracefully nodding their heads; now pausing an instant to arrange a feather, or to daintily gather some fragment of food, and now floating idly about, wafted by the slight breeze which at intervals ripples the surface of the water. A more common, but scarcely less pleasing sight is presented when, unconscious of observation, they walk sedately along the border of the water, never departing from their usual easy grace of movement. Their food is generally found in such places, where the receding water furnishes a bountiful supply. The only demonstrations I have observed during the pairing-time consist of a kind of solemn bowing of the head and body; but sometimes, with the head lowered and thrust forward, they will run back and forth in front of the object of their regard; or again a pair may often be seen to

salute each other by alternately bowing or lowering their heads; but their courtship is characterized by a lack of the rivalry and vehemence usually exhibited by birds. A male is often accompanied by two females at first, but as soon as his choice is made the rejected bird joins her fortunes with some more impressible swain.

The nesting-site is usually in some thin tuft of grass on a level spot, but often in an open place concealed by only a few straggling blades of small *carices*. The male scratches a shallow depression in the soft earth, which is usually lined with a thin layer of fragments of old grass blades, upon which the eggs, numbering from three to four, are deposited about the last of May or first of June. Owing to the low situations in which the nests are placed, the first set of eggs is often destroyed by a heavy fall of rain, causing the water to rise so as to submerge the nest. In this case the second set, numbering two or three, are often deposited in a depression scratched in the ground, as at first, but with no sign of any lining. Accidents of this kind cause the second set of eggs to be sometimes deposited as late as the last of June.

The young usually appear about the third week of June, and are able to fly in about three weeks. Generally a number of pairs nest upon the same marsh. In some instances as many as fifty may be counted within the radius of a mile; but, notwithstanding this, their nests are extremely difficult to discover, the material and the color of the eggs correspond so closely to the appearance of the surrounding surface. If they are disturbed while building, the nest is usually abandoned. Incubation is attended to by the male alone.* The female, however, keeps near, and is quick to give the alarm upon the approach of danger. The females are frequently found at this time in small parties of six or eight; and should their breeding-ground be approached, exhibit great anxiety, coming from every part of the marsh to meet the intruder, and, hovering over his head, utter a weak nasal note, which can be heard to

* [As above stated by Mr. Nelson, Mr. Kumlien was the first to call attention to this fact, as regards the present species, as well as to the fact of the female being larger and brighter-colored than the male. European authors have recorded the same sexual peculiarities of plumage in the Red and the Northern Phalaropes (*Phalaropus fulicarius* and *Lobipes hyperboreus*), and also, in respect to the former, that the male alone undertakes the duties of incubation. In these species the male is said to show much greater devotion to the young, when exposed to danger, than does the female. — J. A. Allen.]

only a short distance. This note, which is possessed by both sexes, is nearly always made while the birds are in the air, and its production requires apparently considerable effort; the head and neck being inclined downward, and then suddenly raised as the note is uttered, the flight being at the same time momentarily checked. The movements of the birds usually render it an easy matter to decide whether or not they have nests in the immediate vicinity. After the first alarm, those having nests at a distance disperse, while the others take their course in the form of an ellipse, sometimes several hundred yards in length, with the object of their suspicion in the centre; and, with long strokes of their wings, much like the flight of a Killdeer, they move back and forth. As their nests are approached the length of their flight is gradually lessened, until at last they are joined by the males, when the whole party hover low over the intruder's head, uttering their peculiar note of alarm. At this time they have an ingenious mode of misleading the novice, by flying off to a short distance and hovering anxiously over a particular spot in the marsh, as though there were concealed the objects of their solicitation. Should they be followed, however, and a search be there made, the manœuvre is repeated in another place still farther from the real location of the nest. But should this ruse prove unavailing, they return and seem to become fairly desperate, flying about one's head almost within reach, manifesting great distress. If possible, still greater agitation is shown when they have unfledged young, — they even betraying their charge into the hands of the enemy by their too obvious solicitude, they then hovering directly over the young, and uttering their notes of distress. The young have a fine, wiry peep, inaudible beyond a few feet.* They are very pretty little creatures, covered with yellowish-buff-colored down, with black spots on the upper surface of the body. Even when first hatched they are quite lively and difficult to capture.

About the middle of July the females suddenly disappear, and a little later the males and the young also leave, with the exception of a few stragglers, which occasionally remain until the last of August. The main portion rarely remain as late as the 10th, and are usually gone by the 5th. The males commence their fall moult before they leave; but I have never taken a specimen in which the winter plumage was very evident.

A DEFENCE OF HIS CATALOGUE OF THE BIRDS OF NEW ENGLAND.

BY T. M. BREWER.

MESSRS. EDITORS: — There were two objects set prominently in view in my list, and distinctly stated. One was to furnish a list that shall be reliable *so far as it goes.* The other was to present a separate list of those birds attributed to New England, but in regard to which, up to May, 1875, I could* "find no evidence that would warrant me in retaining them." These statements seem sufficiently intelligible. The one suggests the incompleteness of the list and my expectation of additional facts. The other explains the challenged list as one given, after many years of careful investigations, as my own conclusions, for which I alone am responsible. It is my indisputable right, having made my own investigations, to form and to express my own conclusions.

In confining myself to what is reliable I necessarily had to omit all generalizations where the data were open to conflicting constructions. Thus in referring to seven species I confined myself to the single prominent feature in their New England life, their residence here in summer. The record shows (North American Birds, *passim*) that I was also well aware of their more or less limited presence in winter. To my mind their occasional presence does not necessarily prove them to be, properly speaking, *resident*, a term only applicable to cases where the same individuals are both generally and constantly present. It should not be applied, except with careful qualifications, to species where this presence is limited to a small proportion, or where it may be altogether doubtful.

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* My friend Mr. Deane, in recording the capture of *Sterna fuliginosa* near Lawrence, Mass., speaks of my having for some unknown reason *withdrawn* this species from the New England list and of its being now *replaced.* I object to this phraseology as calculated to give an erroneous impression. If the bird had been rightfully in the list, it was not in my power to *withdraw* it. If there is no evidence in favor of this right, it cannot be replaced. It was first mentioned by Mr. Samuels as breeding in Muskegat. Every one familiar with that island knows that there is not even a probability that it has ever done so. The whole statement was obviously incorrect. So well satisfied was Mr. Samuels himself of the incorrectness of his information that in his "Ornithology of New England" he omits this species. This Tern is now generally regarded as a cosmopolitan, intertropical species, rarely occurring north or south of the two tropical lines, and is not known to have occurred on Long Island, the coast of New Jersey, or anywhere north of the Chesapeake prior to the present record.

To my mind it is simply an absurdity to speak of a species as *resident* when not one individual of the entire species resides in any part of New England more than a fraction of the year. The word "race" is still a good English word, the meaning of which is so obvious that there is no occasion for misunderstanding it. According to Worcester it is "a series of descendants from one stock." In this sense, and in this only, our Summer and our Winter Robins are of different races, though specifically the same.

Corvus americanus, considered as a bird of *all* New England, is almost exclusively a summer resident. The few that winter are the exception, not the rule; are restricted to a very small part of New England; and are probably merely winter visitants from beyond our borders, and therefore not residents. What your correspondent quotes from my language in reference to *Picus villosus* had reference to all the United States, and not exclusively to New England, though in a more restricted sense it is also applicable. I cheerfully admit that in this case it would have been more correct, on my part, to have given it qualified as partially a resident.

It is not safe to assume, because a limited number of individuals of the other four species named are occasionally taken here in the winter, that they are necessarily resident. Without attempting to generalize, on data to my mind insufficient, I confined myself to that feature in their New England life in regard to which there would not be two opinions, leaving in abeyance all that admits of controversy. These birds are probably only winter visitants, and in no proper sense resident, or only very exceptionally resident.

Your correspondent takes up nearly a third of his second article with various *opinions* as to the occurrence in New England of the five species that formed the subject of his interrogation in his first article. But when I ask for bread he gives me only a stone. I ask for *facts*, and he gives me only *opinions*. He does not cite a single reference that I had not already fully considered. In one instance, while he goes back several years to cite opinions then expressed, but long since given up, he omits to quote the views now entertained by the same party, and in entire variance with what he does cite. In reference to *Quiscalus major*, he quotes Dr. Coues's opinion given in 1868. Twice since then Dr. Coues has publicly given his opinion *against* the occurrence of this species north of the Carolinas; first, in his admirable biography (Ibis, IV. 1870) of this bird, where he speaks of it as "*restricted* to a narrow belt along the coast of the ocean and gulf from North Carolina to Mexico, and as rarely ever occurring north of the Carolinas"; secondly, in a work with which, judging from his quotations, your correspondent seems to be sufficiently familiar (Birds of the Northwest, p. 204), where he speaks of it as "not authentic in New England." Why rake up an opinion given nine years ago and long since disclaimed? Why omit his real opinion now? Dr. Linsley was a correspondent of mine, and from his own account of this species I was satis-

fied that his opinions as to its occurrence were based wholly on hearsay and unreliable testimony, and subsequent claims, when tested, were invariably of the same vague, inconsistent, and contradictory character. Positive proof, such as the preservation of the alleged species or reliable witnesses, was never forthcoming. The occurrence of this peculiarly semi-tropical and local species in New England, when totally unknown north of the Chesapeake, was in itself so improbable that in the absence of any proof I could only discredit such claims. In this opinion I am fully sustained by your correspondent's strongest witness, Dr. Coues.

The same is eminently true of *Corvus ossifragus*. Your correspondent can cite only opinions. Even Mr. Brewster's record of its occurrence, though he is an expert as little likely to be mistaken as any one, does not even now, to my view, bring this species into the list of those whose occurrence with us has been indisputably proven, though it may make its future capture more probable.

In regard to *Ægialitis wilsonius*, we have the *opinion* of Mr. Linsley, which rested upon no evidence; of Dr. Coues, given inferentially and with a "perhaps"; of Dr. Wood, on Long Island (!); of Mr. Allen; and again of Dr. Coues, the latter again speaking qualifiedly ("probably"). What I have said of this species still stands uncontroverted by any *facts*, and the opinions cited are in full accordance with my own given in my list. *Nettion creecca*, as I state, "is a bird liable to occur in New England," but the only instance cited was founded in error on hasty, and, as I satisfied myself at the time, incorrect conclusions. The specimen had been taken in North Carolina and not in Massachusetts. *Sula fiber*, from Mr. Linsley's own account of the specimen, which was not preserved, proved to be an immature *Sula bassana*. Mr. Putnam wrote me that he could give me no authority for his reference.

Your correspondent is skeptical in regard to *Ægiothus canescens*, *Myiodioctes minutus*, *Anser gambeli*, *Bernicla hutchinsi*, *Lagopus albus*. In regard to the last-named I feel somewhat doubtful myself. The first rests on the high authority of Mr. G. A. Boardman; the second, waiving the specimen I took myself in 1836, and which was identified by Mr. Audubon, rests on the excellent authority of a good ornithologist, Dr. Charles Pickering, confirmed by no less authority than that of Mr. Nuttall himself. *Anser gambeli*, between 1836 and 1846, was much more common than it apparently is now, but even now there is no lack of evidence of its presence, though it may have escaped your correspondent's notice. A fine specimen in immature plumage has been recently taken in Gloucester, and is now in the collection of Mr. William Jeffries of Boston. In the winter of 1836–1837, Hutchins's Goose was abundant in our market from this neighborhood, as was also the Pied Duck, the Harlequin, and others now rarely seen. Several specimens were procured by me, preserved in alcohol, and sent to London for Mr. Audubon's anatomical investigations.

In my list are six or seven species given without defining the extent of their distribution,—some of them, though found to my certain knowledge all over New England, and beyond its borders, are only found in favorable localities; others probably have a more restricted range. In regard to all these, my views as to the extent of their range are fully given elsewhere, and, as your correspondent shows, are sufficiently known to him. Yet in spite of this knowledge he did not scruple to attribute to me views which he now shows he knew I did not entertain. This is especially noticeable in the case of *Vireo noveboracensis*. Here, as it seems, he knew that it is my recorded opinion that this bird rarely, if ever, goes north of Massachusetts, yet he professes to understand me as signifying *all* New England, when I had not said so, and when I had elsewhere — unrestricted as to space — stated that I did not so believe!

And where are his *facts* demonstrating that *Helminthophaga chrysoptera* is not a *rare* bird in New England? We have again only an *opinion* that a bird must not be called rare if it regularly breeds here in numbers. The numbers must be very small in this case, and the finding of the fourth nest during ten or twelve years' search by hosts of collectors, is to be spoken of in the future tense! A bird that has only been found in a very restricted area, perhaps a thousandth part of New England, and so uncommon that only two or three of its nests have ever been taken, must not be spoken of as rare!

In the case of *Coturniculus passerinus* your correspondent is excusable for misunderstanding my real meaning, as it is somewhat blindly expressed. What I intended to convey was, that while it is chiefly confined to Southern New England, it is, as a general rule, rare throughout a very extended region into which it sparsely spreads itself. Wherever found it is a species of very irregular and unequal distribution. It wanders into Northern New England, and occurs even as far to the northeast as St. Stephen, N. B. In all this extended area the localities in which it can be said to be at all common are restricted in area and few in number. Your correspondent refers to its being exceptionally common in Nantucket. All this while he well knew that the fact of its abundance on that congenial island was well known to me. (See North American Birds, Vol. I, p. 554, lines 20, 21 and 22.)

More than forty years ago I ventured to publish a supplementary list of the birds of Massachusetts (Boston Jour. Nat. Hist., I, 435). In this list I placed inferentially and with a ? *Polioptila cærulea*. From that day to the time of the publication of my catalogue I have vainly sought for any confirmation of my supposition. Your correspondent is the first to come to my support and to confirm my conjecture, but, prior to May, 1875, there is no "record" whatever confirmatory of its claim to be counted as a bird of New England. Yet because, nearly two years after the preparation of my paper, your correspondent hears of its having been taken in

Connecticut, he speaks of "its record of occurrence having been as good as any of those just cited"; that is, a *subsequent* occurrence can establish a *prior record!*

The same indefensible claim is made in behalf of *Dendræca cærulea.* This was given by Mr. Putnam as a bird of Essex County, on the supposed authority of Mr. Brickett of Portland. Mr. Brickett, when appealed to, wrote me that he had been misunderstood, that he only referred to *D. cærulescens.* So *D. cærulea* fell to the ground, and was left with absolutely no record. Its record is now wholly *ex post facto.* The fact remains indisputable that there was no authentic record of its appearance in New England at the time I so stated.

Having exhausted the all too insufficient limits to which I am restricted, I am compelled to omit nearly all that I have written in reference to *Micropalama himantopus.* I will only state that in characterizing it as "migratory, Mass.," I should have added "N. H.," in which it has been taken twelve miles from our boundary line. Though invited to do so, your correspondent is unable to give any data to show that it is migratory along the entire New England coast. It has not been found in any part of that coast from St. Andrew's to Kittery, or from Buzzard's Bay to East River, and the sweeping statement of your correspondent still remains an entirely unsupported assumption.

Here all controversy, on my part, with your correspondent ends. Whatever reference I may hereafter make to any facts or opinions bearing upon any of our New England birds, will be without any reference to a controversy that has been forced upon me, but in which I cannot do full justice to myself without becoming an infliction upon your readers.*

Recent Literature.

BURROUGHS'S "WAKE-ROBIN." — Hurd and Houghton have reprinted Mr. John Burroughs's charming little volume "Wake-Robin," wherein the wild wood-life of the birds, from Washington to the Adirondacks, is picturesquely sketched. Mr. Burroughs has a keen eye and a loving heart towards the birds, and it is encouraging to know that this volume of his ornithological essays finds a continued sale. The present edition differs from the original (although it is labelled "revised") only in the addition of a chapter on the Bluebird, the addition of a copious index, and in the

* By some oversight, which I can neither explain nor excuse, *Dendræca blackburniæ* is omitted in my catalogue. It should have been given as breeding at least as far south as Massachusetts. The latest instance was noticed by Mr. Geo. O. Welch of Lynn last summer.

insertion of some wood-cut illustrations from Baird, Brewer, and Ridgway's large work, which, with the exception of the frontispiece, by Miss Brydges, almost uniformly mar, rather than beautify the volume. The very first cut is of an inconsolable Olive-sided Flycatcher, which is written down "Hermit Thrush"! But this is the fault of the publishers, who also betray their ignorance in the bad spelling of the preface, and not of the author, who did not see the proof-sheets. It is to be hoped that Mr. Burroughs will collect his later essays on birds into a second volume, which would meet with a very hearty welcome. — E. I.

MINOT'S "BIRDS OF NEW ENGLAND." * — It would not be generous, or even just, to criticise this work as a scientific treatise or as a mature production. We prefer to side with the youthful author, who is evidently a lover of birds, keenly alive to the delights they are capable of affording, and enthusiastic in the pursuit of his favorite study, who has in an incredibly brief period trained himself to become a really good observer, and who shows that he possesses qualities which go to make a first-rate ornithologist. In this volume he not only imparts to others the knowledge of birds he has acquired, but also endeavors to awaken the same pleasurable emotions he has experienced in the acquisition : the former design is carried out with fidelity, precision, and detail, while the freshness, *naïveté*, and no little good taste which the literary execution of the work displays will go far toward meeting the latter indication ; for the color of personality — if it be the genuine thing, as it is in this case unquestionably — always lends a charm to natural-history narrative. The work, moreover, shows traces of kindly interested supervision during its preparation, and the contributions to its pages are not the least valuable of its contents. There is very little technicality, chiefly taken from Baird and another writer ; the descriptions, however, are tersely original. The instructions for collecting eggs differ from those ordinarily given mainly on the score of humanity, showing what may be accomplished without destroying the parents ; but we waver here, saying frankly that as between a bird's life and the identification of an egg we are merciless. Next after the biographies of the birds, which are conveniently divided into sections relating respectively to the nest and eggs, the general habits, and the song or other notes, and which embody no little information not already the property of ornithologists, — on the night-habits of some species, for instance, — the most prominent and most original features of the work are the artificial "keys," in one of which the birds themselves are analyzed somewhat after a method lately introduced, the eggs of

* The Land-Birds and Game-Birds of New England, with Descriptions of the Birds, their Nests and Eggs, their Habits and Notes. By H. D. Minot. Salem, Mass. : Naturalist's Agency. Boston : Estes and Lauriat. "1877" [i. e. Dec., 1876]. 1 vol. 8vo. pp. xvi, 456, figg. xylog. 29 (on 1 pl.) + 22 (in text).

Massachusetts birds being similarly handled in the other. Those who are familiar with these "short cuts" know that it is a stand-off between convenience and fallibility; but the reviewer is the last person who should find fault with them. To appreciate Mr. Minot's work as a whole, we may say that its defects are in no way the author's fault, and that they are of the obtrusive and superficial rather than of the grave or serious kind, much easier to pass over than to dwell upon ungraciously; and that its merits entitle it to full recognition by ornithologists, while they commend it very highly to the student and amateur. The mechanical execution of the volume sustains the high reputation the Salem press deserves for good work. — E. C.

General Notes.

Western Range of Conurus carolinensis. — Mr. E. L. Berthoud, of Golden, Col., writes under date of December 2, 1876: "I saw the Carolina Parrot, at this place (lat. 39° 45′; long. 105° 8′) and at Denver, on the S. Platte, in 1860–61, and on the Little Thompson River, Col., in 1862. It was abundant in Kansas in 1865–67, since which year I have seen but few, on Smoky Hill and Republican Forks. I have also seen it near old Fort Lyon, on the Arkansas River." I am not aware that the species has hitherto been reported as occurring so far west as Colorado. — Elliott Coues, *Washington, D. C.*

Fecundity of the Carolina Wren (*Thryothorus ludovicianus*). — About April 25 I found "our pair of Wrens" very busy, the male being followed by five nearly full-fledged young, and the female actively engaged in constructing (under the rafters of our stable) another nest, in which she soon deposited five beautiful eggs, and commenced sitting, cheered by the loud and happy notes of the male, who had by this time got rid of his noisy brood. In due time five more young Wrens made their appearance, and never did birds work harder than did their parents to supply their insatiable appetites. Spiders, bugs, and larvæ of every description, were brought in quick succession, and, as a consequence, a rapid growth was the result, and the brood was out by the fore part of July, following the male and "quivering" their wings in supplication for food. The female immediately set herself at work on another nest, this time under the eaves of a porch. Large quantities of dry leaves and coarse grass and weeds were carried up, and a compact oval structure was made, with a round cavity in the top, partly roofed over. On the 19th of July I found five eggs in the nest, and the female again sitting. Are three broods in a season commonly reared by this species? — Charles Dury, *Avondale, Hamilton County, Ohio.*

THE LOUISIANA HERON IN INDIANA. — My friend Mr. F. T. Jencks, of Providence, R. I., writes me that on the 26th of June, 1876, while passing through a large marsh between Plymouth and Hanna, on the line of the Pittsburg and Fort Wayne Railroad, in Northern Indiana, he saw a fine adult specimen of *Demiegretta ludoviciana* spring up close beside the railroad-track and fly off in full view. As Mr. Jencks is well acquainted with the species in question, I have no doubt of the correctness of his identification. — E. W. NELSON, *Chicago, Ill.*

NOTE ON THE CINNAMON TEAL (*Querquedula cyanoptera*). — A small lake, which feeds one of the headwaters of the North Platte, in North Park, Colorado, was found to be a breeding-place of large numbers of wild Geese (*Branta canadensis*) and other water-fowl, among which Wigeons (*Mareca americana*), Shovellers (*Spatula clypeata*), and the species the name of which heads this paragraph, were the most numerous. I was on the spot too late in the season to take eggs, but newly-fledged birds of each of the three species of Ducks mentioned, as well as old birds in moult, were secured or observed. The Cinnamon Teal here seemed to replace the common Blue-winged, none of which were ascertained to occur. The spot was on the Atlantic side of the main water-shed, though practically on the divide, as it was only a day's march from the edge of Middle Park, the waters of which area flow into the Colorado of the West and so into the Gulf of California. The Teal associated as usual with various other kinds of Ducks, and no peculiarity of habits was noted. Two young birds were captured alive, in a natural excavation of an embankment, in which they had apparently crawled to hide, as the hole showed no traces of a nest. — ELLIOTT COUES, *Washington, D. C.*

ÆGIOTHUS EXILIPES IN EUROPE. — It may be interesting to the readers of the Bulletin to learn that one of the two Redpoles procured upon the Petchora River in Northeastern Russia, in 1875, by Mr. Henry Seebohm and myself, and on a former occasion, at Archangel, by Mr. E. R. Alston and myself, has turned out to be identical with *Ægiothus exilipes*, Coues. We are thus able to extend the distribution of that species in European Russia as far as Archangel (40° E. longitude from Greenwich). This species was also procured by M. Severtzoff, in Turkestan. In our papers in the "Ibis," January, 1873, p. 64, and "Ibis," January, 1876, we have erroneously named this bird *Æ. rufescens*, which name is only applicable to the form found in Great Britain, and migrating southward in winter. The other species found in North Russia is true *Linota linaria*, Linn. *Ægiothus exilipes*, Coues, will thus probably be found to be almost circumpolar in its distribution, as it is reasonable to suppose that it is the common species occurring throughout Northern Siberia in summer. References to notices of this species in Europe will be found in the "Ibis" as above quoted, in the "Zoölogist" for January, 1877, and in an Appendix Mr. Seebohm and myself are preparing to our "Notes of the Birds of the

Lower Petchora"; and it will be doubtless still more fully treated of in a forthcoming part of Mr. H. E. Dresser's "Birds of Europe." — J. A. HARVIE BROWN, *Cor. Mem., Dunipace House, Larbert, Scotland.*

A NOTE ON CUPIDONIA CUPIDO VAR. PALLIDICINCTUS, RIDGWAY. — In the latter part of January, 1877, I found in Fulton Market about thirty specimens of this form; they were generally unfit for preserving, but I got two in good condition. On examination they agreed accurately with Mr. Ridgway's description (N. Am. Birds, Vol. III, p. 446). I ascertained that they came from Pierce City, Southwestern Missouri. I have been unable to make much inquiry for others since. I lately learned from a large dealer that they had been quite abundant in market, all coming from Southern Missouri. The marketmen objected to buying them on account of their small size. I found their average weight to be one and three-fourths pounds, some weighing but one and a half pounds. All I talked with said they had not noticed them before this winter. — GEORGE N. LAWRENCE, *New York.*

CAPTURE OF THE EGYPTIAN GOOSE ON LONG ISLAND. — On the 3d of January, 1877, I received a remarkably fine specimen of a species of Goose entirely unknown to me. The bird was killed in a pond of fresh water near Carnarsie, Long Island, and has every appearance of being a wild bird. The plumage is in fine condition, and the feet are free from warts. On exhibiting it to our well-known ornithologist, Mr. G. N. Lawrence of New York, he expressed great surprise, and promised to investigate the matter. I have since received from him the following communication: —

"The Goose shown me yesterday is the Egyptian Goose (*Chenalopex ægyptiacus*, Linn.). It inhabits all of Africa, and numerous specimens have been killed in Great Britain. Its acquisition is worthy of being noted, and whether a straggler or an escaped specimen may be ascertained in the future."

The specimen will be placed in the Museum of the Long Island Historical Society of Brooklyn. — JOHN AKHURST, *Brooklyn, N. Y.*

MACCOWN'S LONGSPUR IN ILLINOIS. — While looking over a box of Snow-Buntings and Shore Larks in the market, January 15, 1877, I found a specimen of *Plectrophanes maccowni*, shot at Champaign, Illinois. January 17, another box containing Lapland Longspurs was sent from the same place, and among them was a second specimen of *P. maccowni*, which is now in the collection of C. N. Holden, Jr., Chicago. January 19 I obtained a third specimen from the same source, which has been sent to Mr. E. W. Nelson, of this city. They were all males, showing plainly the chestnut coloring on the bend of the wing and the peculiar white markings of the tail. This is, I think, the first record of the occurrence of this bird in Illinois, if not east of Kansas. — HENRY K. COALE, *Chicago, Illinois.*

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB.

Vol. II. JULY, 1877. No. 3.

DESCRIPTION OF A NEW SPECIES OF HUMMING-BIRD FROM CALIFORNIA.

BY H. W. HENSHAW.

Selasphorus alleni, NOBIS.

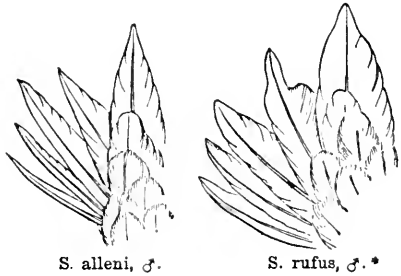
SP. CHAR. — *Adult Male.* Two outer tail-feathers very narrow, linear, the outer nearly acicular; second only slightly larger; third abruptly larger. Upper parts bright golden-green, dullest on the crown. Under tail-coverts, sides, and belly rufous, paler along the median line. Jugulum white. Wings purplish-dusky. Tail-feathers cinnamon, tipped and edged with purplish-brown. Throat and ruff bright coppery-red, with brassy-green reflections. *Female* similar to the female of *S. rufus*, but smaller; tail-feathers narrower, especially the outer.

Habitat. Coast district of California; northward?

DIFFERENTIAL DIAGNOSES.

S. RUFUS. — *Male.* Tail-feathers successively graduated in size, the outer the smallest; fourth from the outer *abruptly attenuated, and with a deep notch at the base of attenuation on the inner web.* Crown (only) metallic-green. Upper parts clear cinnamon, sometimes with flakes and patches of metallic-green on the back.

S. ALLENI. — *Male.* Smaller. Two outer tail-feathers very narrow, linear, the outer nearly acicular;



S. alleni, ♂. S. rufus, ♂.*

* These figures were kindly drawn by Mr. Ridgway, and afford a very exact idea of the differences in the form of the tails of the two birds.

third abruptly larger ; the fourth intermediate in length between the third and fifth. Entire upper parts to the tail golden-green.

Some time since my attention was attracted by a specimen of the above-described bird, in the collection of Mr. William Brewster, which had been received from Mr. C. A. Allen, of Nicasio, California, the locality where it was taken. Experience in the interior, especially in Arizona, had afforded opportunity for the examination of hundreds of the *Selasphorus rufus*, and this specimen, an adult male, differed so decidedly from any I had ever seen that I was led to the belief that there might be on the west coast a variety peculiar to that region. The examination of specimens, however, showing what I considered intermediate phases of coloration from this same locality, led me to conclude that the form was not sufficiently distinct to receive a name, an impression which I now think was wholly erroneous. The reception of new material and a reconsideration of the question has convinced me that the form in question is quite distinct specifically from *S. rufus*, from which it is separable by perfectly good and stable characters of external structure. As might be expected in a family where the females of totally different genera are often distinguishable only with difficulty, it is in the males that the differences are chiefly to be noted. The narrow outer tail-feathers are in the case of *S. alleni* sufficiently peculiar, however, to enable one to distinguish the females and even the young birds.

The adult males are at once separable, not only by the bright green back, the green extending partially over the upper tail-coverts and contrasting sharply with the rufous of the tail, but even more readily by the very peculiar characters of the tail, as above indicated. These are perfectly constant in all the specimens I have seen, and have proved to be so also in all of the many individuals which have passed under Mr. Allen's notice.

In reference to the coloration of the *S. alleni*, I can state that the amount of variation in the adult males is very small. The back is always of a pure metallic green. Mr. Allen, whose authority is unquestionable, and who has had ample opportunity for ascertaining, writes me that the variation is extremely slight, and that a series of thirty males then before him showed no differences. On the other hand, I can assert with equal positiveness that the *S. rufus* never assumes this complete green phase of coloration. Of specimens

from the interior, I have seen at least two hundred adult males, and they all possessed the bright rufous back, only an occasional individual showing a faint trace of the green. In California, however, where the *S. rufus* occurs in its typical condition, that is, with an unmixed rufous back, specimens are not uncommonly found which exhibit a strong approach to the coloration of *S. alleni*. In these the rufous is seen to be mixed with green in varying proportions. Beyond a certain point they appear never to pass, and all such specimens have the peculiar tail characters of *S. rufus* as strongly marked as in the most typical examples of the species. We find the same difference between specimens of *S. rufus* taken in California and on the west coast generally, and those from the interior, that usually obtains in species possessed of a similar range, — that is, the coloration is appreciably darker. The locality of specimens, whether from the coast or the interior, may by this means be readily told.

In Mexico only the *S. rufus* appears to occur, and Mr. A. Boucard informed Mr. Ridgway that, having examined hundreds of the *Selasphorus* from there, he had never seen an example of the Green-backed form, which, however, he was familiar with from California. One of the strongest proofs of the specific distinctness of the two is seen in the fact that the two birds, in their typical condition, occur at the *same locality* and at the *same season*. Both breed about Nicasio (situated about twenty-five miles north of San Francisco), though Mr. Allen finds the *S. alleni* very much more abundant than the other. Thus, during the present season (1877), he has shot about forty-five of the former bird, and has only succeeded in taking four of the rufous-backed species. Last year's experience was a similar one.

This gentleman, whose investigation of these two birds has extended over several years, and who, it is but proper to state, has always believed them to be distinct, has found a constant difference in size, the *S. alleni* being the smaller. Such I find to be the case in the several specimens I have measured, and the discrepancy between them is quite considerable when the diminutive size of the birds of this family is taken into account.

Habits. I am in possession of but few notes bearing upon the habits of this Hummer. Mr. Allen remarks incidentally in a letter that the Green-backs are much the livelier and more active of the two, keeping constantly in the open, and always perching upon the most prominent dead twigs they can find. Their extreme shyness,

as contrasted with the unsuspicious nature of the Rufous-backed, is quite remarkable. They seem to possess a larger share than usual of the courage and pugnacity which is so constantly displayed in birds of this family. Not only do they always come off the victors when chance encounters take place between them and the Rufous-backs, but Mr. Allen has seen a pair attack and put to rout a Red-tailed Hawk; while, as he remarks, "Sparrow-Hawks have no chance at all with them." He has often seen the little fellows in hot chase after these latter birds, and their only care seemed to be to get out of the way as soon as possible of foes so determined.

The Rufous-backed Hummer, on the contrary, frequents the thickets, and is always unsuspicious and readily approached. The different localities they affect may indicate a difference in the flowers from which they obtain their food.

Habitat. The habitat of *Selasphorus alleni* seems to be confined to the coast district of California, though subsequent investigation may show that it extends its range to the northward. It appears to be strictly limited to the western slope of the Sierras, and may indeed wander but a short distance from the coast. It is thus very local, while the *S. rufus* has a very widely extended habitat. Few species, indeed, of the family range over as many degrees of latitude as this, which appears equally at home in the valleys and elevated table-lands of sub-tropical Mexico and in the less inviting regions of Southern Alaska, while it occupies in summer most of the intermediate ground. Specimens are in the Smithsonian collection from Sitka, which forms its most northern recorded locality. In the interior it appears to be of less general occurrence than in the region west of the Sierras, though this apparent absence is doubtless due in part to our lack of knowledge of the Avifauna, especially of the northern interior. The eastern slope of the Sierras is apparently occupied by it throughout their whole length. Mr. Ridgway found it in autumn in the East Humboldt Mountains, and Dr. Coues in Montana, and it may be said to occur over most of the Rocky Mountain region, either as a summer resident or as a fall migrant. Dr. Coues is the only one who has found it breeding in the interior, but I think it probable that not only the mountains about Fort Whipple, which formed his field of observations, but the mountain-fastnesses throughout the Territory of Arizona, and also in New Mexico, and perhaps in Southern Colorado, may furnish the species a summer home. Certain is it that in August this Hum-

ming-Bird is found almost simultaneously over all the more inviting parts of this lower country, and in certain sections where flowers abound, as in the mountains of Eastern Arizona, their numbers far exceed all other species put together.

Though apparently so hardy, and though pushing its migrations in spring in search of its summer home to a point attained by no other species of its family, it yet in winter retires far south, and appears to find the climate, even of California, too rigorous for its endurance. Possibly, however, the winter flora is not suited to its habits, and this may govern its choice of a winter residence, rather than inability to live in a climate which appears well adapted to its less fastidious rival, the Anna Humming-Bird (*Calypte annæ*). However this may be, it is certain that the great proportion, perhaps all, of the two species of *Selasphorus* leave our territory entirely in fall, and if any remain they are but a very limited number, which take refuge in the warm interior valleys of California.

Below is appended a table of measurements of the two species. The specimens of *S. rufa* are purposely selected from different localities, and the measurements give a good idea of the amount of variation : —

	Sex.	Date.	Locality.	Collector.	Wing.	Tail.	Bill.
S. rufus,	♂ ad.	March 29, 1877	Nicasio, Cal.	C. A. Allen	1.59	1.23	.61
"	♂ ad.	March 29, 1877	" "	" "	1.62	1.33	.63
"	♂ ad.	— — 1876	SanFrancisco,Cal.	F. Gruber	1.67	1.28	.65
"	♂ ad.	— — 1876	" " "	"	1.60	1.27	.65
"	♂ ad.	May 29, 1855	Columbia River,	J. K. Townsend	1.52	1.33	.63
"	♂ ad.	— — 1855	Mirador, E. Mex.	Dr. Sartorius	1.52	1.27	.66
"	♂ ad.	April 21, 1851	Steilacoom, W. T.	Dr. Suckley	1.57	1.27	.63
"	♂ ad.	August 25, 1873	Apache, Ariz.	H. W. Henshaw	1.58	1.32	.63
"	♀ ad.	July 24, 1873	El Moro, N. Mex.	" "	1.75	1.22	.72
"	♀ ad.	August 12, 1874	Ft Garland, Col.	C. E. Aiken	1.77	1.25	.68
"	♀ ad.	August 17, 1875	Tejon Mts., Cal.	H. W. Henshaw	1.66	1.17	.63
"	♀ juv.	August 18, 1875	" " "	" "	1.73	1.21	.67
S. alleni,	♂ ad.	March 24, 1875	Nicasio, Cal.	C. A. Allen	1.47	1.21	.64
"	♂ ad.	March 31, 1877	" "	" "	1.48	1.17	.63
"	♂ ad.	March 31, 1877	" "	" "	1.50	1.17	.67
"	♂ ad.	March 31, 1877	SanFrancisco,Cal.	" "	1.52	1.17	.63
"	♀ ad.	May 18, 1876	Nicasio, Cal.	" "	1.63	1.15	.68
"	♀ ad.	March 17, 1877	" "	" "	1.61	1.16	.67
S. rufus,	Average of eight males				1.58	1.29	.64
"	" " four females				1.72	1.21	.68
S. alleni,	" " four males				1.49	1.18	.64
"	" " two females				1.62	1.15	.67

The number given of *S. alleni* is less than would have been desirable, and I regret that I have not at hand the large number of

measurements taken by Mr. Allen. As he informs me, however, that the variation in this respect is very small, it is probable the average would be little changed by their addition.

In bestowing the specific name, I have paid but a deserved compliment to the zeal and enthusiasm of Mr. C. A. Allen, but for whose efforts in obtaining the specimens necessary for comparison, and careful field-notes, the species might have remained for a long time still unrecognized.

THE BIRDS OF GUADALUPE ISLAND, DISCUSSED WITH REFERENCE TO THE PRESENT GENESIS OF SPECIES.

BY ROBERT RIDGWAY.

THE importance of insular faunæ in their bearing on the subject of the derivation of species, has been recognized by eminent writers; and certain islands, remote from the mainland, among which may be mentioned the Galapagos, have received marked attention. An excellent memoir upon the birds of the latter group has lately been published by Mr. Osbert Salvin,* who discusses the relationship of certain peculiar forms to their continental allies, and even goes so far as to point out among the latter the present representatives of the parent stocks from which the genera now peculiar to the Galapagos have been derived. That Mr. Salvin is probably correct in his conclusions, is very strongly indicated by certain facts developed from a study of the fauna of Guadalupe, where in the case of almost every species, precisely the same local modifications are observable; the process of change in the latter case, however, has been either more recent or more gradual, since close affinity to continental representatives is clearly seen in every species, the extreme differentiation met with in the Galapagos types not having yet been reached.†

* On the Avifauna of the Galapagos Archipelago. By Osbert Salvin, M. A., F. R. S., etc. Transactions of the Zoölogical Society of London, Vol. IX, Part IX, pp. 447–510, pls. lxxxiv–lxxxix. May, 1876.

† These modifications seem to be, (1) enlargement, or elongation, of the bill and feet, (2) abbreviation of the wings and tail, and (3) darkening of the colors

The island of Guadalupe is situated off the coast of Lower California, between latitude 28° 45′ and 29° 10′ north, and about two hundred and twenty miles southwest from San Diego. Until very recently nothing was known regarding the ornithology of this island, but in the spring of 1875 a collection of birds was made by Dr. Edward Palmer, and forwarded to the National Museum at Washington. This collection, embracing eight species and seventy-two specimens of land-birds, was placed in the hands of the writer for identification, and reported upon in the Bulletin of the U. S. Geological and Geographical Survey of the Territories, Vol. II, No. 2, April 1, 1876 (pp. 183–195).*

As above stated, the land-birds contained in the collection from Guadalupe embrace only eight species, so that the fauna of the island is by no means fully represented; indeed, the collector observed a Humming-Bird, two kinds of Owls, and a Hawk, of which no specimens were obtained. This is to be regretted, since most, if not all, of these would doubtless have proved new. It is altogether likely, too, that other species escaped notice, and thus remain to be discovered; a rich field is therefore left to the future explorer. The affinities of the birds of Guadalupe are, so far as known, almost entirely with those of Western North America, there being no peculiar types, each species having a more or less closely related representative on the continent. The species thus far known are the following, their continental representatives being given opposite: —

Guadalupe Species.	*Mainland Representatives.*
Sylviidæ.	
1. Regulus obscurus.	Regulus calendula.

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of the plumage. The following remarks by Mr. Salvin are those which refer more particularly to these peculiarities: —

"In the formation of its bill, it [*Geospiza*] hardly differs at all from some species of *Guiraca*, as *G. concreta* and its allies. *The legs and feet, however, are much longer* and *stronger* than in any species of *Guiraca*; and the tail in proportion to the wings is very short" (l. c., p. 478).

"From *Conirostrum* [the continental representative genus] *Certhidea* [of the Galapagos] differs in having *much shorter wings and tail*" (l. c., p. 476). [*Italics our own.*]

* Ornithology of Guadeloupe [*lege* Guadalupe] Island. Based on Notes and Collections made by Dr. Edward Palmer.

Troglodytidæ.	
2. Thryomanes brevicauda.	Thryomanes bewicki.
3. Salpinctes guadalupensis.	Salpinctes obsoletus.
Fringillidæ.	
4. Carpodacus amplus.	Carpodacus frontalis.
5. Junco insularis.	Junco annectens.
6. Pipilo consobrinus.	Pipilo maculatus.
Picidæ.	
7. Colaptes rufipileus.	Colaptes mexicanus.
Falconidæ.	
8. Polyborus lutosus.	Polyborus tharus.*

The more prominent characteristics of these Guadalupe birds, as compared with the mainland forms, are (1) increased size of the bill and feet, (2) shorter wings and tail, and (3) darker colors; these variations are by no means uniform, however, in the several species, the differentiation being in some slight, while in others it amounts to almost generic distinctness; but, what is very remarkable, and of great interest in connection with the subject in hand is, that no matter how great may be the modification of form and proportions, *the specific characters, so far as coloration is concerned, are in every case strictly preserved!* † Thus, *Carpodacus amplus* has the wing and tail barely longer than *C. frontalis*, but the bill is three times as large, and the feet twice as stout, *while the colors and markings are substantially identical; Junco insularis* has precisely the same plumage as *J. annectens* (except that the shades of color are just perceptibly darker), but the bill is so elongated, and the wings and tail so much abbreviated, that in form it is much more like the species of *Ammodromus* than those of typical *Junco*! *Thryomanes brevicauda* does not differ more than just appreciably in colors and marking from *T. bewicki*, but the difference in form is so great as to render it necessary either to institute a new genus, or, as the only alternative, to draw up a generic diagnosis entirely

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* Singularly enough, the *Polyborus* from Guadalupe resembles much more closely the South American species than that from Mexico (*P. cheriway*), though it is very distinct from either.

The only water-bird collected on the island was a specimen of *Colymbus pacificus*, in perfect breeding plumage, *found dead on the shore.*

† With the sole exception of *Polyborus lutosus.*

different from that heretofore considered to embrace the most important characters. In the case of *Carpodacus*, there has been reached in the Guadalupe race almost, if not quite, that degree of differentiation which distinguishes the Galapagoan genus *Geospiza* from continental *Guiraca*, the modifications being moreover of precisely the same character. *Junco insularis* may likewise be compared with the species of *Cactornis*, in which the bill has become so extremely produced as to have almost lost its fringilline character.

The three species above-mentioned exhibit the local modifications to the greatest extent, but the rule may be traced through the whole series; and to show the exact extent of these modifications of form we present the following table of measurements of each of the Guadalupe species compared with those of the mainland representative form, the measurements representing the *maximum and minimum of a large series* of each: —

SPECIES.	MAXIMUM.					MINIMUM.				
	Wing.	Tail.	Bill from Nostril.	Tarsus.	Middle Toe.	Wing.	Tail.	Bill from Nostril.	Tarsus.	Middle Toe.
Regulus obscurus *	2.20	1.95	.25	.80	.40	2.00	1.70	.22	.80	.38
" calendula	2.45	2.03	.22	.76	.35	2.20	1.60	.20	.65	.35
Thryomanes brevicauda..	1.90	1.80	.50	.75	.50	1.85	1.80	.45	.70	.50
" bewicki.....	2.38	2.70	.45	.80	.50	2.00	2.00	.38	.63	.45
Salpinctes guadalupensis	2.75	2.30	.60	.90	.55	2.50	2.00	.55	.80	.50
" obsoletus	3.00	2.42	.50	.90	.58	2.65	2.20	.50	.73	.55
Carpodacus amplus.....	3.35	2.90	.45	.85	.65	3.10	2.60	.40	.75	.58
" frontalis	3.20	2.90	.35	.70	.50	2.85	2.40	.30	.62	.50
Junco insularis.....	2.85	2.60	.38	.85	.60	2.50	2.30	.35	.80	.55
" annectens	3.43	3.40	.30	.80	.60	3.00	2.80	.28	.80	.55
Pipilo consobrinus	3.25	2.80	.40	1.08	.75	2.90	3.25	.35	1.00	.60
" megalonyx	3.60	4.60	.40	1.05	.75	3.30	4.00	.35	1.05	.70
Colaptes rufipileus	6.25	5.30	1.60	1.10	.92	5.90	4.75	1.35	....	....
" mexicanus.....	7.00	6.00	1.25	1.20	.85	6.65	5.50	1.15	....	....
Polyborus lutosus.....	16.40	11.65	1.35	3.75	2.10	15.00	10.50	1.25	3.50	1.80
" cheriway	16.50	10.00	1.48	3.75	2.10	14.60	9.00	1.20	3.20	1.90

* The Guadalupe species are in Italics.

A close perusal of the above figures leads to the discovery of some exceptions to the rule of variation in proportions. Thus, *Regulus obscurus*, while conforming in other respects, does not have the tail constantly shorter than *R. calendula*, although it *averages* shorter. There is also no appreciable difference in the *absolute* length of the tarsus in the two forms of *Thryomanes* and *Salpinctes*, though the *comparative* difference in favor of *T. brevicauda* and *S. obsoletus*, when contrasted with the length of the wings and tail, is very marked.

These exceptions we are unable to explain, but even unaccounted for they do not detract from the high importance of the variations we have noted. It will also be observed that there is no essential difference in dimensions or proportions between *Polyborus lutosus* and *P. cheriway*, the modifications being almost entirely in the plumage, which in the former species is so distinct, at all ages, from that of the other in corresponding stages that it may be regarded as one of the most completely differentiated birds of the whole series.

Not only in proportions, but also in colors, do the modifications presented by these Guadalupe birds correlate with characteristics of the Galapagoan forms. A conspicuous character of the latter is their sombre plumage of black or fuliginous-brown; now, excepting only *Polyborus lutosus*, precisely the difference in plumage of the Guadalupe birds from their Continental allies consists in their *darker colors*. *Carpodacus amplus*, although a bird of at least double the bulk of *C. frontalis*, is so nearly identical in plumage that positively the only difference consists in the slightly darker shade of all the colors; *Junco insularis* is darker than *J. annectens*, but is otherwise similar in plumage; *Regulus obscurus* is much darker than *R. calendula*; *Thryomanes brevicauda* and *Salpinctes guadalupensis* are likewise darker in colors than *T. bewicki* and *S. obsoletus*, while *Colaptes rufipileus* differs from *C. mexicanus* in having one half more black on the under side of the tail, besides being darker generally. In *Pipilo consobrinus*, however, the black portions of the plumage are hardly so intense black as in the mainland forms of *P. maculatus, but the female is almost if not quite as black as the male*,* while in the others she is more or less conspicuously different, being some shade of brown or gray instead of black. As remarked before, the only real exception to the rule is *Polyborus lutosus*, but this has a quite different distribution of colors from the two Continental species; it may be observed, however, that while the black markings are replaced by dark brown, the lighter markings are pale clay-color instead of white; and further, that there is far less difference between the young and adult stages.

Not the least interesting fact concerning these Guadalupe birds

* The similarity of the sexes in birds having a black plumage is remarkably prevalent among the West India birds, as Professor Baird has somewhere noted.

is their anomalous geographical relation to their mainland representatives, the latter being the Rocky Mountain or Middle Province races *instead of those from the intervening coast districts!* Thus, *Carpodacus amplus* agrees with *C. frontalis* in the restriction of the red in the male to sharply defined and limited areas, the coast form, *C. frontalis rhodocolpus*, having the red "spread," as it were, over the greater portion of the plumage; *Junco insularis* is a perfect repetition of *J. annectens* so far as plumage is concerned (except that the shades of color are somewhat darker), and does not at all resemble *J. oregonus* of the coast. *Thryomanes brevicauda* is colored more like *T. bewicki leucogaster* (the Upper Rio Grande form) than *T. bewicki spilurus* (the coast form); while *Salpinctes guadalupensis* differs in the same way from *S. obsoletus*, which, moreover, *is not represented at all in the coast district*, except perhaps rarely and locally in Southern and Lower California.

The peninsula above mentioned also presents in many respects closer affinities to the middle region than to the coast district, especially in the fauna found at Cape Saint Lucas; but on the western side many of the true Californian forms replace those of the Middle Province, *Carpodacus rhodocolpus* being a case in point, this species thus entering as a separating wedge between *C. frontalis* and *C. amplus!* Now very similar anomalous cases occur among Galapagos birds, an entirely parallel instance being afforded by *Dendræca aureola*, of which Mr. Salvin (l. c., p. 474) remarks: "The bird from the Galapagos [meaning the above-named form] is the same as that from Jamaica,* whereas on the intervening continent two other (so-called) species occur — namely, *D. æstiva* as a winter migrant, and *D. vieilloti* as a resident — but never, as far as we know, *D. petechia*." Another quite similar case is afforded by *Myiarchus magnirostris* of the Galapagos, since Mr. Salvin says that "its nearest allies are perhaps the island races of the Antilles rather than those of the continent; and in this respect the affinities of *Dendræca aureola* are, to some extent, repeated; but in the present case the specific characters of *M. magnirostris* are well defined" (l. c., p. 492).

In the paper above referred to, are incorporated notes by the collector, Dr. Habel, on the habits of the species; and in these refer-

* We do not agree with Mr. Salvin in considering the forms of this species from the West Indies and the Galapagos *absolutely* identical, but recognize in them well-marked races, differing from each other about as much as the Guadalupe birds do from those of the mainland.

ence is made to the exceeding tameness of certain Galapagos birds. A similar confidence in man was likewise found to be a characteristic of some of the Guadalupe species, as an instance of which we quote the following from Dr. Palmer's notes regarding *Junco insularis* [see page 189 of our paper, cited at the head of this article]: "These are the most abundant birds of the island, and are so tame that they may be killed with a stick or captured in a butterfly-net. While I was looking for insects under stones and logs, these birds would sometimes join in the search, and hop almost into my hands. They gathered chiefly ants and their eggs. At times they even enter the houses, picking up anything edible they can find. Numbers boarded the schooner as we neared the island, and made themselves perfectly at home, roaming over every part of the vessel in search of food." It seems, however, that not all the birds of the island were thus unsuspicious and familiar, since Dr. Palmer remarks that it is difficult to secure *Thryomanes brevicauda*, on account of its shyness.

In conclusion, a few words regarding the derivation of these insular forms may not be out of place. As to those of the Galapagos, Mr. Salvin expresses the following opinion: "Considering their purely volcanic nature, it cannot reasonably be doubted that these islands have always been islands since they emerged from the sea. Such is Mr. Darwin's view; and it is fully indorsed by Dr. Hooker and others. The birds that are now found, being related to American birds, must have emigrated thence and become modified by the different circumstances with which they became surrounded. The oldest immigrants seem to be indicated by their generic difference from their continental allies, the more modern comers by their merely specific distinctness, and the most recent by their identity with birds now found on the adjoining continent. On this view the islands were first taken possession of by individuals of the parent stock of *Certhidea* and *Conirostrum*, *Geospiza* and *Guiraca*, *Camarhynchus* and *Neorhynchus*. Then came perhaps the ancestors of *Buteo* [*galapagensis*]*; after these followed *Mimus*, *Pyrocephalus*, and *Myiarchus*, *Strix* and *Asio*, *Zenaida*, *Larus* and *Spheniscus*. Then those of *Dendroica*, *Progne*, *Butorides*, *Nycticorax*, and *Porzana*, and, finally, *Dolichonyx oryzivorus*, *Ardea herodias*, and the Ducks, Flamingo, Gannets, Plovers, and Sandpipers, though of these last a constant stream

* The nearest ally of the Galapagoan *Buteo* is *B. poliosomus* of the Patagonian region.

of immigrants may have been maintained from the earliest times. It must be remembered, however, that no precise order of immigration can be laid down, even approximately; for one term in the proposition is an absolutely unknown quantity. We know nothing of the rate of change that has taken place in any one species. Outward circumstances may have acted on one species, so as to leave it little changed in a given time, whilst in the same time another species may have assumed distinctive generic characters. 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.

ture have almost, if not quite, reached generic distinctness, while the colors have remained essentially unaltered. The same may be said of *Junco insularis*, *Thryomanes brevicauda*, and *Colaptes rufipileus*, while the remaining species, *Regulus obscurus*, *Salpinctes guadalupensis*, and *Pipilo consobrinus* are either more recent arrivals or species in which the process of change has been comparatively slow.

AN UNDESCRIBED HYBRID BETWEEN TWO NORTH AMERICAN GROUSE.

BY WILLIAM BREWSTER.

In the preparation of the following paper I have hesitated not a little as to the propriety of giving *a name* to the bird about to be described. That it is a hybrid between the Pinnated Grouse (*Cupidonia cupido*) and the Southern race of the Sharp-tailed Grouse (*Pediœcetes phasianellus* var. *columbianus*) is unquestionable, and, further, I consider it almost equally certain that offspring resulting from such unnatural connections are of regular, perhaps even not uncommon, occurrence wherever the two just mentioned species are found together. Indeed, I am aware at the time of writing, of three other similar specimens in private cabinets, and I have heard of additional ones. Although I have examined but one besides my own, I understand that they are all in every way nearly identical, and the fact of their having been procured from different localities must go far towards proving that their occurrence is by no means exceptional or unique. Granting this to be a fact, it seems reasonable that so distinctly specialized a form should bear a distinguishing name, for though certainly the result of a *mésalliance*, and combining in itself characters peculiar to two different species, it is yet unlike either.

But I do not claim originality for a system that has been long established among European authorities. In respect to the name to be adopted I shall follow the practice of Mr. Robert Collett. This gentleman, in writing upon the "Rakkelhane," a hybrid between *Tetrao urogallus* and *T. tetrix*, says,* it "is a *compound* and

* Remarks on the Ornithology of Northern Norway by Robert Collett. From the Forhandl. Vidensk. Selsk. Christiania, 1872. (Page 50 of the reprint.)

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 female Black Grouse (*Tetrao tetrix*), *Lagopus tetrici-albus*, the numerous recorded facts at his disposal enabling him to decide upon the respective specific relation of both parents with almost absolute certainty. But in the present case the entire absence of any facts bearing upon this part of the problem reduces me to the somewhat dangerous limits of mere conjecture, or, what is little better, the relative preponderance of specific resemblance exhibited by the specimen before me. Not to weary the reader by a too exhaustive preliminary discussion of detail, I will restrict myself to the simple statement that after careful examination I believe the hybrid Grouse about to be described the offspring of a connection between *Cupidonia cupido, male,* and *Pediœcetes phasianellus* var. *columbianus, female,* and I accordingly bestow upon it, provisionally, the compound name *Cupidonia cupidini-columbiana.*

Distinctive Characters. — Adult male, from a specimen in my collection, obtained in Iowa. Size and general proportions of *Pediœcetes phasianellus* var *columbianus.* Tail of sixteen feathers exclusive of *two central projecting ones.* Tarsi feathered as in *Cupidonia. Neck-tufts* 1.50 inches long. Upper tail-coverts *coextensive* with the rectrices. Above similar to *Cupidonia cupido;* wing-coverts (but not the scapulars) white-spotted, as in *Pediœcetes.* Breast and sides barred transversely, as in *C cupido;* abdomen *white,* sparsely covered with obtuse V-shaped spots of brown. Head, neck, and throat-markings precisely as in *C. cupido.* Neck-tufts dark brown ; the longer ones not so stiff as those of *C. cupido,* the shorter dull yellow. Tail generally similar in shape and color to that of *C. cupido,* but with a central pair of elongated feathers "with parallel edges and truncated ends," which project .52 of an inch beyond the next pair. These projecting feathers are tipped with light brown like the other rectrices ; subterminally for the space of about an inch they are solidly black, — anteriorly, with ragged rusty-yellow bars. The outer webs of the outer pair of rectrices are irregularly white. The measurements, taken from the dried specimen, are as follows : Wing, 8.57 ; tail, 3.25, — two central feathers, .52 longer ; bill, depth, .40, length from nostril, .50 ; tarsus, 2.03 ; middle toe, 2.75.

It will appear from the above description that this bird combines in nearly equal proportions the characters of *Pediœcetes* and *Cupidonia*. In the general pattern of coloration of the plumage it most resembles *C. cupido*, but the abdomen is spotted like the breast of *Pediœcetes*, and the wing-coverts are marked precisely as in that species. It has the neck-tufts of *Cupidonia* and the projecting tail-feathers of *Pediœcetes*, both of these characters, however, slightly modified. A remarkable feature appears in the extension of the upper tail-coverts nearly to the tips of the rectrices.

Recent Literature.

NELSON'S "BIRDS OF NORTHEASTERN ILLINOIS."* — Under the above title Mr. E. W. Nelson gives us the results of three years' investigation in Cook and Lake Counties in the northeastern corner of Illinois, "a belt about twenty-five miles wide, bordering Lake Michigan in Illinois," including the field considered. As he remarks, the locality seems to form "a kind of four-corners where the avian faunæ of four regions intergrade"; hence we find a somewhat novel juxtaposition of species. On or near the lake occur many birds formerly considered as more or less exclusively maritime. Notably among those of this class found in summer are *Ammodromus caudacutus* and *Ægialitis melodus;* during the migrations, *Strepsilas interpres*, *Tringa maritima*, *T. canuta*, *Calidris arenaria*, and *Micropalama himantopus;* in winter, *Histrionicus torquatus*, *Harelda glacialis*, *Somateria mollissima*, *S. spectabilis*, *Larus glaucus*, and *L. leucopterus*. As might be expected, the species properly belonging to the Carolinian fauna which reach this point are, with a few exceptions, of either uncommon or rare occurrence, and they here seem to touch the extreme northern limit of their range in that longitude. But most interesting are the records of northern birds breeding so far south, especially Limicoline and Natatorial species. Thus Mr. Nelson has found nesting in greater or less abundance, *Tringa minutilla*, *Totanus melanoleucus*, *T. flavipes*, *T. solitarius*, *Marecca americana*, *Fulix affinis*, *F. collaris*, *Erismatura rubida*, *Mergus serrator*, and some others.

It is not, however, from the simple enumeration of species, that this list derives its chief value and interest, but from the unusually complete and satisfactory character of the biographical annotations, which embrace good descriptions of the habits of many birds previously but little known.

Thus Mr. Nelson describes the songs of *Turdus alicie* and *Oporornis*

* Birds of Northeastern Illinois. By E. W. Nelson. Bulletin of the Essex Institute, Vol. VIII, 1876, Nos. 9–12, pp. 90–155, April, 1877.

agilis, the eggs of *Totanus melanoleucus*, and tells us of Night Herons (*Nyctiardea grisea nivæa*) breeding in the open marshes of Fox River, placing their nests among the wild rice. Emphatically there is no *lumber* about this paper. It gives, in clear, concise language, the results of extended, carefully and intelligently conducted observations in a region almost wholly unworked, and from its geographical situation and topographical character and surroundings, most rich in results. As an important and valuable faunal contribution to our knowledge of North American Ornithology, Mr. Nelson's list cannot fail to take first rank. — W. B.

Salvin on the Procellariidæ. — In the fourth part of the "Ornithological Miscellany," edited by Mr. G. D. Rowley, Professor Osbert Salvin has given the first of a valuable series of papers, in which he seeks to throw all possible light upon this very obscure family. This paper is in two parts. The first is devoted to an examination of the unpublished "Banks' drawings," and the manuscripts of Dr. Solander, so far as they relate to the Petrels. These drawings are sixteen in number, and are presumed to have been drawn by Sydney Parkinson, one of the artists in the employ of Sir Joseph Banks, in the "Endeavor," under Captain Cook. The manuscript notes of Dr. Solander are in the British Museum. As Bonaparte and Gray have introduced Dr. Solander's names into our ornithological nomenclature, even where unaccompanied by descriptions and unpublished, Mr. Salvin has done the world good service in testing the vitality of these names.

Procellaria oceanica of Solander stands as *Oceanites oceanicus* of Kuhl. It is better known as *Thalassidroma wilsoni*. *Procellaria æquorea* of Solander, (= *P. marina* of Latham, and confounded by Kuhl with *P. fregata*, a distinct species, in which he was followed by Gray, and for a time by Coues), stands as *Pelagodroma marina*. *Procellaria fregata* of Solander stands as *Fregata grallaria*. *Procellaria turtur* (Sol.) = *Prion turtur*. *P. velox* (Sol.) "must continue doubtful." *P. gigantea* (Sol.) stands as *Ossifraga gigantea*. *P. fuliginosa* Mr. Salvin traces with some difficulty to *Majaqueus æquinoctialis*, but without doubt. *P. sandaliata*, a "long-lost" species, now reappears in the *Œstrelata armingoniana* of Giglioli and Salvadori (Ibis, 1869), and to their name Mr. Salvin gives the preference, following the Golden Rule in questions of nomenclature.

P. lugens of Solander cannot be placed. Kuhl and Gray made it the same with *P. grisea* = *Œstrelata kidderi* Coues = *Œ. brevirostris* Lesson, — the latter being the proper name, and the same as *P. tristis* Forst. and *P. amaurosoma* Coues; but, according to Mr. Salvin, incorrectly. *P. lugens* must thus be left in abeyance. *Nectris fuliginosa* of Solander Mr. Salvin is convinced = *Puffinus griseus* Finsch. *Nectris munda* Solander may apply to *P. gavia* Forst. (= *P. opisthomelas* Coues), but this is regarded as doubtful. *Diomedea antarctica* (Sol.) is probably = *D. fuliginosa*, and *Diomedea profuga* possibly = *D. chlororhyncha*.

Mr. Salvin's second paper is a careful examination of the new species of Petrels obtained by Dr. H. H. Giglioli during the voyage of the Italian corvette "Magenta" round the world, and described in the "Ibis" in 1869. Mr. Salvin examined the type specimens, and accompanies his review with fine illustrations drawn by the well-known bird-painter, Keulemans. These species, according to Mr. Salvin, should all stand as good and novel species. Their names are as follows: *Œstrelata magentæ*, *Œ. armingoniana*, *Œ. trinitatis*, *Œ. defilippiana*, and *Puffinus elegans*. — T. M. B.

Catalogue of the Birds of the Islands of Malta and Gozo. — The Boston Public Library has recently received a copy of Mr. Grant's catalogue of Birds found on the islands of Malta and Gozo. Naturally, a list of the birds occurring in these islands, situated midway between the northern coast of Africa and the southern shores of Europe, divides into three principal groups: migratory birds, properly European; visitants, from Africa; and resident species. Besides these, not always distinguishable, are purely accidental or chance callers. Among the most noticeable of this small group it is interesting to note such purely American species as *Tringoides macularius*, *Actiturus bartramius*, and *Larus atricilla*. *Tryngites rufescens*, American, but not uncommon in Europe, has also been found there. We also notice the occurrence in these islands of birds that are somewhat cosmopolitan as well as North American, such as *Rissa tridactyla*, *Larus marinus*, *Plectrophanes nivalis*, *Tringa canutus*, *T. maritima*, *T. subarquata*, *T. maculata*, *Strepsilas interpres*, *Anous stolida*, and several species of Ducks, common to both continents. — T. M. B.

Ridgway's "Studies of the American Falconidæ." — During the last two years Mr. Robert Ridgway has given us, in a series of special papers, some of the results of his protracted investigation of the American *Falconidæ*. In June, 1875, appeared his "Outlines of a Natural Arrangement of the *Falconidæ*," * based on an extended examination of the osteology of the leading types of raptorial birds. In this paper he indorses most fully the classification of the Birds of Prey proposed in 1867 by Professor Huxley, which unites the Old-World Vultures (*Vulturidæ* of most authors) with the *Falconidæ*, separates the Secretary Bird as an independent family (*Serpentariidæ*), and makes the Vultures of the New World a family (*Cathartidæ*) distinct from the other Diurnal Birds of Prey. Mr. Ridgway recognizes among the *Falconidæ* only two subfamilies, — namely, *Falconinæ* and *Buteoninæ*, — thereby differing very widely from most previous writers, some of whose classifications he rather sharply criticises. The subfamily *Falconinæ* he arranges in four minor divisions or "groups," under the names *Falcones*, *Polyborі*, *Micrastures*, and *Herpeto-*

* Bull. U. S. Geol. and Geogr. Survey of the Terr., Vol. I, No. 4, pp. 225–231, pls. xi–xviii, June 10, 1875.

theres, and similarly divides the subfamily *Buteoninæ* into three "groups," which he calls *Pandiones*, *Pernes*, and *Buteones*. While Mr. Ridgway endeavors to make use of all available characters as the basis of his divisions, his classification is based primarily upon the character of the coracoid apparatus, particularly as to whether the scapular process of the coracoid is produced forward so as to meet the clavicle, or is separated from it by a wide interval; and also upon the character of certain bones of the skull, especially the supra-maxillary, the nasal, and the superciliary process of the lachrymal, of which parts are given numerous outline illustrations. Whether Mr. Ridgway has quite hit the "natural arrangement" here aimed at, and whether he has not placed undue value upon the modifications of the scapular process of the coracoid, are matters respecting which there is evidently room for honest differences of opinion.

This paper, which closes with a synopsis and diagnoses of the genera and subgenera of the *Polyborí*, is followed a few months later by his "Monograph of the *Polyborí*."* This is strictly an American group, of very peculiar appearance and habits. They are chiefly tropical in their distribution, inhabiting all parts of South America, where they most abound, and do not extend northward beyond sub-tropical limits, a single species only (the Caracara, *Polyborus cheriway*) reaching the southern border of the United States. About ten species only are recognized by Mr. Ridgway, which he refers to four genera, namely, *Polyborus*, *Phalcobænus*, *Milvago*, and *Ibycter*. The more important generic characters are illustrated by outline figures, and the various phases of plumage of the species are quite fully described.

A little later, under the general title "Studies of the American *Falconidæ*,"† Mr. Ridgway continued his account of the American *Falconidæ*, describing in detail sixteen genera and some forty species, besides a number of varieties. Thirteen species are referred to the single genus *Nisus* (= *Accipiter* of many authors), while twelve other genera have each but a single species. A few only of the species described in this paper are North American. These are, "*Nisus*" *cooperi*, "*N.*" *fuscus*, *Onychotes gruberi*, *Antenor unicinctus* var. *harrisi*, and *Elanoides forficatus*, only three of which range very far into the United States.

Mr. Ridgway also, in the mean time, published a paper "On *Nisus cooperi* (Bon.) and *N. gundlachi* (Lawr.),"‡ in which he maintains the entire specific distinctness of "*N.*" *gundlachi*, which had been previously by several authors, including Mr. Ridgway himself, referred to "*N.*" *cooperi*.

This paper is immediately followed by another, "On the Buteonine

* Studies of the American *Falconidæ*: Monograph of the *Polyborí*. Bull. U. S. Geol. and Geogr. Survey of the Terr., Vol. I, No. 6, pp. 451–473, pls. xxii–xxvii, February 8, 1876.

† Bull. U. S. Geol. and Geogr. Survey of the Terr., Vol. II, No. 2, pp. 91–182, pls. xxxi, xxxii, April 1, 1876.

‡ Proc. Acad. Nat. Sci. Phila., 1875, pp. 78–88.

Subgenus *Craxirex* (Gould)," * a group represented most numerously in South America. Two species only (*Buteo swainsoni* and *B. pennsylvanicus*), of the six referred to this subgenus, range far into North America. This group is distinguished from the ordinary *Buteones* by having only three (instead of four) of the outer primaries emarginated on their inner webs. While agreeing in this feature, they vary considerably in respect to the relative length of the wing, the size and length of the tarsus, and in other details of structure; and it is perhaps an open question whether our author does not place too much importance upon what he regards as the distinctive feature of the group, namely, the number of emarginated primaries. The various phases of plumage presented by the different species is described in considerable detail, with very full citations of synonymy. The account of *Buteo swainsoni* is particularly full, nearly one half the paper (about fifteen pages) being devoted to this species alone. Among its prominent synonymes are *Buteo hairdii* of Hoy, *B. insignatus* and *B. oxypterus* of Cassin, and *B. fuliginosus* of Sclater.

A little later appeared his "Monograph of the Genus *Micrastur*," † of which seven species are recognized, and of which are given detailed descriptions. The group is mainly restricted to Central and Northern South America, being pre-eminently tropical in distribution. While the species are said to present "no appreciable sexual variation," they exhibit "two well-marked growth-stages," the young birds generally greatly differing from the adult. In addition to this, several of the species are dimorphic, being subject to erythrism, analagous to the dimorphism met with in *Syrnium aluco* of Europe, in *Scops asio*, and in the several species of *Glaucidium*, among the Owls. Shortly after this appeared another paper on this genus, by Mr. Ridgway, entitled "Second Thoughts on the Genus *Micrastur*." ‡ This is mainly a summary of his "Monograph." The "Second Thoughts" relate to his earlier revision of this genus, published in 1873, § — in which only five, instead of seven, species were admitted, — rather than to the "Monograph," to which there is in this paper no allusion.

During the elaboration of these important papers on the American *Falconidæ*, Mr. Ridgway has had access to the material contained in all the larger public and private ornithological collections of the United States, and has been kindly favored with the use of specimens from abroad. He has in this way been able to base his investigations upon the examination of a larger amount of material than has, in most cases at least, fallen un-

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* Proc. Acad. Nat. Sci. Phila., 1875, pp. 89 – 119.

† Studies of the American *Falconidæ*: Monograph of the Genus *Micrastur*. Proc. Acad. Nat. Sci. Phila., 1875, pp. 470 – 502, figs. 1 – 9.

‡ Ibis, January, 1876, pp. 1 – 5.

§ Revision of the Falconine Genera, *Micrastur*, *Geranospiza*, and *Rupornis*, and the Strigine Genus, *Glaucidium*. Proc. Bost. Soc. Nat. Hist., Vol. XVI, pp. 73 – 81, December, 1873.

der the inspection of any other investigator in the same field. In these papers we have the results of much hard and patient study, and while experts in the same field may differ from him in respect to minor points of classification and nomenclature, no one can question the fact of his having immensely advanced our knowledge of this large and difficult group. We trust that he will soon be able to give us further instalments of his work on this family, and that eventually we may have the whole reissued connectedly in a well-rounded monograph of the American *Falconidæ*. — J. A. A.

Recent Ornithological Articles in American Journals.* — Among the varied contents of the last and current volumes of the "American Naturalist,"† we note the following original articles relating to birds. The number for January, 1876 (Vol. X) contains a note on the "Proper Specific Name of the Song Sparrow" (pp. 17, 18), by David Scott, who claims for this species the name *fasciata*, Gmelin, 1788, in place of *melodia*, Wilson, 1810, the probable tenability of which had been previously suggested by other writers. Also an article on the "Availability of Certain Bartramian Names in Ornithology" (pp. 21 – 29), by J. A. Allen; a note on the extinction of the Great Auk at the Funk Islands (p. 48), by the same; on the occurrence of Bewick's Wren in the Atlantic States, and the breeding of *Ibis ordi* at Camp Harney, Oregon (p. 48), by Dr. Elliott Coues; on the Early Nesting of the Anna Humming-Bird (pp. 48 – 50), by Dr. J. G. Cooper; and on the occurrence of the European Tree Sparrow (*Pyrgita montana*) at St. Louis, Mo. (pp. 50, 51), — where it has been introduced with the *P. domestica*, — by Dr. J. C. Merrill. The February number (same volume) contains notes on the "Summer Birds of the White Mountain Region" (pp. 75 – 80), by H. D. Minot; an article on "Californian Garden Birds" (pp. 90 – 97), by Dr. J. G. Cooper; a reply to Mr. Allen's article in the preceding number on Bartramian names (pp. 98 – 102), by Dr. Elliott Coues; also, by the same, notes on the "Breeding Range of the Snowbird," *Junco hyemalis* (p. 114); on "Protective Resemblance in the Yellow-Bird," *Chrysomitris tristis* (p. 115), by Henry Gill-

[* In addition to notices of papers published in the transactions of different scientific societies, or as special works, it is intended to note in the Bulletin all original ornithological articles appearing in various periodicals (beginning with the year 1876), thereby making the Bulletin a complete record of North American ornithological literature. Owing to limited space, it will be impracticable to give generally more than the titles of articles. The record here begun will be continued in future numbers. — Eds.]

† The American Naturalist. Edited by Dr. A. S. Packard, Jr. Boston: H. O. Houghton & Co.; New York: Hurd and Houghton. Vol. X and Vol. XI, January to June. (The departments of Ornithology and Mammalogy are now in charge of Dr. Elliott Coues.)

man. In the March number, Dr. W. Wood writes of the "Game Falcons of New England: the Goshawk" (pp. 132–135); J. A. Allen appears with a further note on Bartramian names (pp. 176, 177), and R. E. C. Stearns speaks of the abundance of Pelicans in San Francisco Bay, Cal. (p. 177). In the April number are notes on the breeding of the Red Crossbill (*Loxia curvirostra*) at Riverdale, N. Y. (p. 237), by E. A. Bicknell; on Bewick's Wren in New Jersey (p. 236), by Dr. C. C. Abbott; on "Habits of Western Birds,"—*Buteo swainsoni*, *Icterus bullocki*, *Stellula calliope*, *Corvus americanus*, and *C. corax*,—(p. 238), by Dr. W. J. Hoffman; on "Unusual Nesting-Sites of the Night-Hawk and Towhee Bunting (p. 239), by Dr. Elliott Coues; and on "Small Birds [*Chrysomitris tristis* and *Dendroica coronata*] caught by the Burdock" (p. 239), by A. K. Fisher. The May number contains a call for information respecting the distribution of the Labrador Duck, *Camptolaemus labradorius* (p. 303), by Dr. Coues. In the June number is a record of the capture of the European Woodcock in Virginia (p. 372), and a note on change of habits in the Bank Swallow (p. 373), by Dr. Coues; also remarks on the food of the Chapparal Cock, *Geococcyx californianus* (p. 373), by V. T. Chambers. In the July number J. Clarence Hersey notes the occurrence of the Little White Egret (*Ardea candidissima*) in Colorado (p. 430). The August number contains an account of a brief sojourn of large numbers of White Egrets at Trenton, N. J. (pp. 469–473), by Dr. C. C. Abbott; Robert Ridgway here states that the Bank Swallows (p. 493) referred to in the June number are the *Cotyle serripennis*, instead of *C. riparia*, as first stated. In the September number appears an historical article on "Progress of Ornithology in the United States during the Last Century" (pp. 536–550), by J. A. Allen, and a note on Bluebirds feeding on the berries of the Virginia Creeper (p. 556), by Henry Gillman. The October number contains a note on the egg of *Chionis* (p. 628), by Dr. J. H. Kidder. An article in the December number, by Dr. Elliott Coues, on the "Destruction of Birds by Telegraph Wire" (pp. 734–736), concludes the ornithological articles of Volume X.

In Volume XI we find, in the January number, "Notes on some Oregon Birds" (p. 44),—seven species,—by George R. Bacon, and a note on the Whistling Duck, *Bucephala americana* (p. 44), by J. F. LeBaron. In the February number, notes on some of the birds of the Fanning Islands (pp. 68–72), by Dr. T. H. Streets; in the April number, record of the occurrence of the Raven and the Sooty Tern (*Sterna fuliginosa*) at Williamstown, Mass. (p. 243), by Sanborn Tenney; in the May number, "Glimpses of Mind in Birds" (pp. 276–286), by Dr. C. C. Abbott; some observations on the winter birds of Arkansas (p. 307), by H. S. Reynolds; and a note on a carnivorous propensity of the Red-headed Woodpecker, *Melanerpes erythrocephalus* (p. 308), by Charles Aldrich. In the June number Judge J. D. Caton writes of the "Wild Turkey and its Domestication" (pp. 321–330).

"Field and Forest"* continues to devote a considerable portion of its space to ornithology. Volume II (beginning July, 1876) contains the following: "On the Habits of *Steganopus wilsoni*" (pp. 11, 12), by A. L. Kumlien (already noted in this journal, Vol. I, p. 71); "Notes on Forster's Tern" (pp. 29–31), by Pierre Louis Jouy; "Sexual, Individual, and Geographical Variation in the Genus *Leucosticte*" (pp. 37–43), by Robert Ridgway; "Drumming of the Ruffed Grouse" (pp. 57–60), by David Scott; "Crows Seeking Water" (p. 65), by N. B. Webster; "Sexual Variation in the Genus *Leucosticte*" (pp. 76–79), by J. A. Allen; the "Tendency of Birds to vary in their Habits" (pp. 107–114), by David Scott; a Congress of Birds (p. 122), by L. F. Ward; "Unusual Accidents to Birds" (p. 106), by A. J. Kumlien; "Ornithological Notes from Texas" (pp. 154–156), by Ludovic Kumlien; "Catalogue of the Birds of the District of Columbia" (pp. 154–156, 178–181), by Pierre Louis Jouy, — a nominal list of 240 species; Remarks on the Birds of the District of Columbia (pp. 191–194), by Drs. E. Coues and D. W. Prentiss; "Mrs. Maxwell's Colorado Museum, — Collection of Birds" (pp. 194–199), by Robert Ridgway. — J. A. A.

Since January, 1876, several ornithological lists, of more or less importance, have appeared from time to time in "Forest and Stream."† While our space will not permit of a lengthy notice of these lists, a simple enumeration of them will be useful for reference. In Volume VI, pp. 99, 132, 163, 214, 266, 318, 354, 402, and Volume VII, pp. 147, 164, 276, Mr. Adolphe B. Covert, of Ann Arbor, Mich., has given an interesting List of the Birds of Lower Michigan, including two hundred and twelve species. In this list are recorded specimens of *Dendræca kirtlandi*, *Scolopax rusticola* (one specimen obtained by Dr. Wm. E. Lewitt, May 9, 1870), and *Camptolæmus labradorius* (one specimen taken at Delphi Mills, Mich., April 17, 1872). In Volume VI, p. 148, Mr. G. Aug. Smith gives a List of the Birds of Fort Wayne, Ind., including fifty-two species. In Volume VI, pp. 233, 284, 337, 402, and Volume VII, pp. 36, 52, 84, 180, 230, Mr. H. G. Fowler, of Auburn, N. Y., gives a Partial List of the Birds of Central New York, from observation made in the counties of Cayuga, Seneca, and Wayne. In this list Mr. Fowler records the capture of *Querquedula cyanoptera* on Seneca River. This, we believe, is the only record for this species east of the Rocky Mountains. He also notes the occurrence of *Sterna fuliginosa* on Owasco Lake, a specimen having been taken there

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* Field and Forest. A Monthly Journal devoted to the Natural Sciences. Charles R. Dodge, Editor. Washington, D. C. Vol. II, Nos. 1–12, July, 1876, to June, 1877.

† Forest and Stream, a Weekly Journal devoted to Field and Aquatic Sports, Practical Natural History, Fish Culture, the Protection of Game, etc., etc. New York: Forest and Stream Publishing Company.

on September 20, 1876. The list comprises one hundred and sixty-eight species. In Volume VI, p. 300, Mr. H. Ernst, of Cleveland, Ohio, gives a List of the Warblers of the Western Reserve, in which he notes thirty-one species. In Volume VII, pp. 389 and 404, Colonel A. S. Brackett, U. S. A., gives a List of Birds of Southeastern Wyoming, including eighty-four species. In Volume VIII, pp. 33, 49, 96, 113, a List of the Birds of Webster, N. H., and adjoining towns, is given by Mr. Chas. F. Goodhue. This list comprises one hundred and thirty-three species. In Volume VIII, pp. 176, 192, 224, 241, 261, is a List of the Birds of the Coteau des Prairies of Eastern Dakota, by Chas. E. McChesney, M. D., U. S. A., of Fort Sisseton, comprising one hundred and three species. — R. D.

Californian Ornithology. — Dr. J. G. Cooper has recently published a paper * of fourteen pages, entitled "New Facts relating to Californian Ornithology. — No. 1." This is supplemental to the same author's "Ornithology of California," and "includes only observations not previously published, and such opinions as differ from those of later authors." About fifty species are noticed, the notes respecting them relating mainly to their seasonal distribution and habits, but include descriptions of the nests and eggs of several species, with occasional remarks upon disputed points of nomenclature. He claims the name *nanus* for the species of Thrush usually known as *Turdus pallasi* (as has also Dr. T. M. Brewer), but inclines to the opinion that the name *guttatus* of Pallas (1811) will finally prove to be the only tenable name for the species. He also claims, on the ground of priority, that *sandwichensis* should take the place of *savanna* for the species of Sparrow, commonly known as *Passerculus savanna*. The paper is replete with interesting matter, and forms a valuable contribution to our knowledge of Californian Ornithology. — J. A. A.

McCauley's Notes on Texan Ornithology.† — Lieutenant C. A. H. McCauley has just given us the results of six weeks' observations made in May and June, 1876, on the ornithology of the country about the source of the Red River of Texas, embracing a portion of the region known as the Staked Plain. The paper includes notices of about one hundred species, with quite copious notes respecting the habits of a considerable proportion of them, with, in some cases, descriptions of their nests and eggs. This is almost the first special paper treating of the ornithology of Western

* Proc. Cal. Acad. Sci., 1876. Only the author's separates have yet been seen by the writer.

† Notes on the Ornithology of the Region about the Source of the Red River of Texas, from Observations made during the Exploration conducted by Lieutenant E. H. Ruffner, Corps of Engineers, U. S. A. By C. A. H. McCauley, Lieutenant Third United States Artillery. Annotated by Dr. Elliott Coues, U. S. A. Bull. U. S. Geol. and Geogr. Survey, Vol. III, No. 3, pp. 655–695, May 15, 1877.

Texas, and forms a most welcome contribution to our knowledge of the ornithology of that region. The list shows an unusual mingling of eastern and western species, and, as would be naturally expected, a considerable proportion of strictly southern forms. On the barren Staked Plain few birds were met with, and these mainly about water-holes; along the timber-skirted streams, however, bird life was abundant. — J. A. A.

General Notes.

Nest and Eggs of Townsend's Flycatcher. — In July, 1876, while rambling with my brother over the mountains of Summit County, Colorado, it was my good fortune to find, at an altitude of about ten thousand feet, the nest of Townsend's Flycatcher (*Myiadestes townsendi*), and as no description of its eggs has as yet appeared, perhaps the following may not be uninteresting: The nest was very loosely, and, externally, shabbily built of long dry grasses, straggling two feet or more below it. It was placed in the upper bank of a miner's ditch (running from the Bear River, above Breckenridge, to the Gold Run and Buffalo Flat diggings), and was partly concealed by overhanging roots; yet it was rendered so conspicuous by the loose swaying material of which it was composed, as well as by that which had become attached to the overhanging roots during its construction, as to attract the eye of an experienced collector when yet some rods away. On nearing the nest the bird immediately took flight, and alighted on the topmost branch of the nearest pine. Resting uneasily here for half a minute, it then, in short, uncertain flights, worked its way down the mountain side and out of sight. Withdrawing to a convenient cover, we had only to wait a few moments for the bird to return, perch herself on a branch a few feet from the nest, peer anxiously into it, and then quickly resume her task of incubation. Moving cautiously along the bank above the ditch, we tried to capture the bird by placing a hat over the nest, but, miscalculating its location by a few inches, the bird eluded the stroke and made good her escape, as she did also on our second attempt to capture her. Again retreating to cover, we waited for half an hour for the bird to return, when suddenly we espied it flying from branch to branch, displaying by its restless motions more anxiety and suspicion than before, yet constantly working nearer its home, which it soon reached and settled quietly again to business. After the last unsuccessful attempt to catch the bird, a stick was placed on the bank directly over the nest, to mark its exact locality, and this time, moving with less haste and more caution, we gained the desired position, lay down on the bank, and taking a hat in each hand quickly covered the opening and secured the unfortunate bird, and also the opportunity of giving to ornithologists an authentic

account of the number, size, and coloration of the eggs. The nest contained four eggs, very closely resembling those of the Shrikes. The ground-color is dull white or bluish, thickly blotched or freckled with reddish-brown. The measurements of the three specimens preserved are 1.01 by .66, .94 by .68, and .88 by .66. Incubation had been going on for about ten days, and unfortunately one egg was destroyed in cleaning. —WILBUR F. LAMB, *Holyoke, Mass.*

PERSISTENCY AT NEST-BUILDING IN A HOUSE-WREN. — A House-Wren (*Troglodytes aëdon*) has this season manifested a strong predilection for the nozzle of a pump for a nesting-site. The pump being in daily use, the nozzle, much to our surprise, was repeatedly found to be obstructed with sticks. An investigation of the novel incident led to the discovery of the cause, it being found that a House-Wren was industriously at work carrying materials into the pump for the construction of its nest. The bird was finally left one morning to carry on his work, when, at the end of two hours, it was found that he had filled the pump so full that water could not be obtained until a part of the sticks had been removed. The nest, through the necessary use of the pump, was three times destroyed before the persevering little fellow abandoned his work. — ABBOTT W. FRAZAR, *Watertown, Mass.*

A NEW BIRD TO MASSACHUSETTS. — Mr. Charles W. Townsend, of Boston, shot, July 28, 1876, a male specimen of *Plectrophanes ornatus*. It was taken in Magnolia, near Gloucester, Mass., in a field near the seashore, and has been by Mr. Townsend presented to the New England collection of the Boston Natural History Society. It is an adult male, in worn plumage. — T. M. BREWER, *Boston, Mass.*

A NEW FORM OF SURNIA TO NEW ENGLAND. — Two fine specimens of the Hawk Owl have recently been taken in Houlton, Maine, and have been mounted by Mr. Welch in his usual superior style. They are both males, and while one is in the plumage usually known as *Surnia hudsonia*, the other is in that distinguished by the separate name of *Surnia ulula*, and supposed to be exclusively Palæarctic. — T. M. BREWER, *Boston, Mass.*

CAPTURE OF THE PHILADELPHIA VIREO IN NEW HAMPSHIRE. — A specimen of this bird (*Vireo philadelphicus*) was shot in Hollis, New Hampshire, May 26, 1876, by Mr. A. F. Eaton. It was feeding in company with two other birds of the same kind, in some low oak-bushes. — W. H. FOX, *Concord, Mass.*

OCCURRENCE OF PASSERCULUS PRINCEPS IN NEW YORK. — One of my correspondents, Mr. Frank E. Johnson, of Gravesend, Long Island, writes me that when out collecting, on December 20, 1876, on Coney Island, in New York harbor, he shot three specimens of a Sparrow new to him,

which were shown to Mr. George N. Lawrence, and pronounced to be the Ipswich Sparrow (*Passerculus princeps*). They were shot on the salt meadows of the island, and were in company with Savannah Sparrows (*Passerculus savanna*) and Swamp Sparrows (*Melospiza palustris*). This is the most southern record of this species.* — H. B. Bailey, *Newton, Mass.*

The Pigeon-Hawk (*Falco columbarius*) at Sea. — While returning from a trip to Labrador, last summer, I observed small Hawks, undoubtedly of this species, at a considerable distance from land, on two occasions.

The first occasion was on the 5th of September. We were crossing the Gulf of St. Lawrence, and were in sight of the coast of Newfoundland, which was about twelve or fifteen miles distant. As many as four Hawks were seen, which came so near that we were able to recognize them as Pigeon-Hawks. They seemed to be perfectly at home, flying over the water, and showed no fear of the vessel, several times alighting on the rigging.

The first that appeared had a Leach's Petrel, dead, in his talons. He alighted with this, on the fore-crosstrees, and proceeded to eat it. The sailors were unwilling that we should fire into the rigging, so a young man went up the fore-rigging, and nearly caught the Hawk, which flew off, leaving his prey behind him. Three other Hawks came off to the vessel during the day, and were all shot, but all, unfortunately, fell into the water and could not be secured. The day was bright, clear, and warm, with a light wind from the north, so that we made very little progress. The Hawks appeared to come from the direction of Newfoundland.

The second occasion was during our run from Cape Sable to Boston, about fifty miles from the nearest land. It was the 10th of September, a bright day, with a strong northwest wind. A small Hawk, probably a Pigeon-Hawk, passed the vessel, flying to windward. Dr. Coues, in his "Notes on the Ornithology of Labrador," mentions that a Hawk of this species came on board their vessel during their return voyage, in a very exhausted condition. This bird, however, was very shy, and was immediately frightened away from the vessel. He also mentions seeing several Sparrow-Hawks while in the Gulf of St. Lawrence, off Cape Breton Island, which "circled quite closely around the vessel, showing but little fear." — John Murdoch, *Cambridge, Mass.*

Capture of a Second Specimen of Helminthophaga leucobronchialis. — In the first number of the Bulletin for the year 1876, Mr. Wm. Brewster described a new species of *Helminthophaga* (*H. leucobronchialis*), which he obtained in Newtonville, Mass., on May 18, 1870. He says in his article, "Whether it must be placed in the same category with the

* For other records of occurrence of this species see this Bulletin, Vol. I, pp. 18, 52, and Vol. II, p. 27.

unique *Euspiza townsendi*, *Regulus cuvieri*, etc., or, like *Dendræca kirtlandi*, will turn up occasionally in the future at different points, or still again, as in the case of *Centronyx bairdii*, will be found in large numbers, time alone can decide." It is with pleasure, therefore, that I can announce the capture of a second specimen of this species, so new to Ornithology, and particularly also because it was taken in a locality so far distant from where the first one was obtained. The specimen under consideration was shot by Mr. Christopher D. Wood, on the afternoon of May 12, 1877, in an apple orchard near Clifton, Delaware County, Pa. It proved to be a male, and answered to the description given by Mr. Brewster. It is, without doubt, a veritable specimen of *H. leucobronchialis*, and goes to prove the species a good one. It was first called to my attention by Mr. Wood himself, who told me that he had shot a specimen of *H. leucobronchialis* near Clifton. He afterwards showed me the bird, which he had been comparing with the plate of the former specimen, and found it to be identical. Whence these rarities come, whether they are abundant in certain sections, and the characters of the females, are matters not yet known; yet it is more than likely that at no very distant day both the present species, as well as *Helminthophaga lawrencei*, may prove to be nearly if not quite as abundant as the other species of the same genus. — SPENCER TROTTER, *Philadelphia, Pa.*

THE MOTTLED OWL AS A FISHERMAN. — On November 29, 1876, I took from a Mottled Owl's hole (*Scops asio*) the hinder half of a Woodcock (*Philohela minor*). Within two weeks after I took two Owls from the same hole, and on the 19th of January last I had the good fortune to take another. After extracting the Owl I put in my hand to see what else there was of interest, and found sixteen Horned Pouts (*Amiurus atrarius*), four of which were alive. When it occurred to me that all the ponds in the vicinity were under at least two feet of snow and ice, I could scarcely conjecture where the Horned Pouts could have been captured. After visiting all the ponds, I found they had most probably been captured in one fully a mile away, where some boys had been cutting holes through the ice to catch pickerel bait. The Owl probably stationed himself by the edge of the hole and seized the fish as they came to the surface. What a busy time he must have had flying thirty-two miles after sixteen Horned Pouts! I may also state in this connection that I once found the ground under a Great Horned Owl's nest (*Bubo virginianus*) literally strewn with fish-bones. — A. M. FRAZAR, *Watertown, Mass.*

BREEDING OF LEACH'S PETREL ON THE COAST OF MAINE. — In the January number of the Bulletin (Vol. II, 1877) Mr. N. C. Brown refers to the Leach's Petrel (*Thalassidroma leucorrhœa*, Linn.) "as found for the first time breeding on the New England coast," and mentions meeting with its

nests on the Green Islands in Casco Bay. That Mr. Brown was not the first person to find it breeding even on the Green Islands would not be a fact of sufficient moment to call for correction did not his statement suggest the quite important error implied: that it is not known, and has not been known, to breed elsewhere on the coast of Maine. That this Petrel breeds along the greater part of the coast of Maine has been known as a fact for many years. Whether Casco Bay is its most western point remains to be ascertained.

In June, 1850, I made several weeks' explorations in the neighborhood of Eastport, and found this bird breeding in all the Grand Menan group — which geographically, if not politically, are part of the Maine coast — on the island of Eastport itself, and on a small island between Eastport and Machias. An account was published (Bost. Jour. Nat. Hist., Vol. VI, p. 297). On the following year, in company with Dr. H. R. Storer, I continued these explorations, and ascertained that this species breeds abundantly on every suitable island as far west as Mt. Desert. Several years afterwards, in the summer of 1855, and again in 1856, in company with Dr. Dixon, of Damariscotta, we traced their breeding, in considerable numbers, as far west as Round Pond harbor, in Bristol, and in the Damariscove Islands, in the ocean, not far from the mouth of the Kennebec. In 1873, on Peakes Island, I saw specimens of the eggs and birds taken by Messrs. Franklin Benner and Spencer Baird Biddle in Casco Bay the same summer. On the strength of these observations, made by others as well as myself, in my Catalogue of the Birds of New England (Proc. Bost. Soc. Nat. Hist., Vol. XVII, p. 450), I spoke of this Petrel as a summer resident on the coast of Maine. I have by me, in MS., the letters of both these gentlemen in regard to their observations. I subjoin a brief extract from the notes of Mr. Benner: —

"The first visit was made to Junk-of-Pork Island, about three miles northeast of Peakes, in Casco Bay, on July 16, 1873. The island has an area of half an acre at low water, and in the centre is an almost perpendicular piece of rock about forty feet in diameter and nearly twenty-five feet high. A dozen or more burrows of this Petrel, each with their single egg, were found in the earth that had accumulated on the top of this rock. The eggs were about half incubated. In two nests young were found only a day or two old. One of the parent birds was found in each burrow, and in one instance both.

"On the 22d of the same month I visited White Bull Island, located twelve miles farther to the eastward, and comprising a much larger extent of surface than the first. Here were also found the nests of the Petrel among many of the Terns. Young birds were found in many of them, and some eggs."

He speaks of having found them "abundant," and probably breeding in several other "of the many barren islands in the neighborhood." — T. M. Brewer, *Boston, Mass.*

Nest and Eggs of the Alaskan Wren. — In a small collection of birds' skins, nests, and eggs recently acquired by the Museum of Comparative Zoölogy, collected at the Pribylow Islands, Alaska, is the nest and two eggs of the Alaskan Wren (*Troglodytes parvulus* var. *alascensis*), which are believed to be the first ever seen by naturalists. The nest is quite large and very compactly built, being composed externally of fine moss of a bright green color, interwoven with fine roots, and lined heavily with hair and feathers. Conspicuous among the latter are the rosy-tipped feathers of the *Leucosticte griseinucha*. The hairs are rather coarse and white, three to four or five inches in length, and appear to be hairs of the Polar Bear. The nest was obtained in June, 1876, on St. George Island, by Mr. W. J. McIntyre, to whom it was brought by a native. It is said to have been placed deep down in the crevices of large rocks, and to have originally contained twelve eggs, all but two of which were broken before they came into Mr. McIntyre's possession. These measure, respectively, .68 by .51 and .60 by .50. Their general color is dull white, with a very few minute dots of reddish, so few and small as to be easily overlooked. The nest is represented to be very hard to find, being placed so deeply among the rocks, this being the only one Mr. McIntyre could obtain during two years' residence at the Islands, although he had a standing offer for them of about ten dollars in gold each. — J. A. Allen, *Cambridge, Mass.*

Junco oregonus in Illinois. — October 14, 1875, I saw a flock of some dozen birds in a willow-tree, and killed one with a sling. The rest flew off, and were not seen again. The specimen was sent to Mr. E. W. Nelson, who identified it as *Junco oregonus*, the first one of this species captured in this State, its extreme eastern range as heretofore known being Kansas. — H. K. Coale, *Chicago, Ill.*

Leptoptila albifrons, a Pigeon new to the United States Fauna. — Mr. George B. Sennett, a diligent and zealous ornithologist, who has been making collections and observations in Southern Texas, writes as follows from Hidalgo, Tex., under date of May 2, 1877 : —

"I have a dove which I do not identify, and accordingly send you a description of a specimen killed April 18. This is a male. I have secured four specimens, and hope to find the nest, as I am satisfied they breed here. Their cooing is low and short, ending with a falling inflection, and is easily recognized by its peculiarity. . . . . Length, 12.50 ; extent, 19.50 ; wing, 6.35 ; tail, 4.50 ; tarsus, 1.37, middle toe and claw the same ; bill, .62, black. Iris yellow. Orbital space small, faintly red and blue. Tail square, of twelve feathers. Upper parts greenish-olive, the metallic coloring purple with bronzy-green reflections, and restricted to back of neck. Crown drab, shading to nearly white on the forehead. Chin white. Foreneck creamy-slate. Belly white. Sides ashy. Wings brown, slaty below, and whole underwing-coverts are bright chestnut, which color ex-

tends even on the sides. Middle tail-feathers like the back; others brown above, and tipped with white in increasing amount, till the outer ones are white for half an inch; tail below black, with the white tips, as just said. Under tail-coverts pure white. In general habits, the bird is quiet and not readily alarmed; it associates with the White-winged Doves (*Melopelia leucoptera*), and prefers tall trees to undergrowth."

I sent my correspondent's letter to Mr. Ridgway, who kindly compared the description with specimens of *Leptotila albifrons* in the National Museum, and made this identification. — ELLIOTT COUES, *Washington, D. C.*

MELOPELIA LEUCOPTERA IN COLORADO. — Mr. E. L. Berthoud, writing from Golden, Col., March 7, 1877, informs me of the occurrence of this species near timber line on the head of Cub Creek, Jefferson County. He saw a dozen or more of the birds — rare in this region — in July, 1869. This verifies my surmise (Birds of the Northwest, p. 386) of the actual occurrence of the species beyond hitherto recorded limits. — ELLIOTT COUES, *Washington, D. C.*

THE RUFF AND THE PURPLE GALLINULE IN OHIO. — Dr. Theodore Jasper, of this city, obtained, November 10, 1872, at the Licking Reservoir, thirty miles east of Columbus, a Wader which remained unidentified till recently. I was of the opinion that it would prove to be either *Philomachus pugnax*, or a nondescript. On communicating my views to Mr. H. W. Henshaw, of Washington, he kindly offered to compare the specimen with others in the National Museum. He writes that the bird, which was a male (probably young), is positively identical with specimens of that species in the collection of the National Museum.

I have also just received from my friend, Dr. Howard E. Jones, a fine skin of the Purple Gallinule (*Porphyrio martinica*), killed by him at Circleville, Ohio, May 10, 1877. This bird is now recorded for the first time, on unimpeachable authority, as a visitor to this State. Dr. Jones tells me that it has been seen before in the vicinity of Circleville. In my Catalogue of the Birds of Ohio (Ohio Agric. Rep., 1860), it was inserted on what I afterward discovered to be insufficient authority, and for that reason it was omitted from a subsequent list (Food of Birds, etc. 1875). I have several times been favored with reports, and once or twice with skins, presumed to be of this species, which proved, however, to be those of the Florida Gallinule, which is not a rare summer resident throughout the State. — J. M. WHEATON, *Columbus, O.*

NOTES ON NYCTALE ACADICA. — Although not generally common in any locality, the Acadian or Saw-whet Owl has been of quite frequent occurrence in Chicago and immediate vicinity during the past three years. A female of this species in my collection was caught alive while sleeping on one of the lower branches of a pine-tree, June 23, 1874. In July of the same year three adult specimens were shot by a boy, who saved only

the wings, as he did not understand preserving skins. November 4 an adult female was shot in a small grove of pine-trees near the south city limits. It measured, 8.12 × 18.60; wing, 5.50. March 26, Mr. C. C. Whitaere caught an adult male at the same place. It was kept alive for several days, when it died from being caught between the bars of its cage. He afterwards shot two adult females in the same grove (which has since gone by the name of the Acadian Grove), and also found one dead in his yard. March 28 Mr. J. B. Osborne shot an adult female, and June 15 a young female, both of which are now in my possession. The latter measured, 7.37 × 19.25 ; wing, 5.62. Disc dark brown ; forehead, wings, and tail beginning to show white markings, as in the adult. July 10 a second young specimen was brought to me alive. Although just captured, it showed no fear on being handled. In the shade the iris was hardly visible, while in the sun the pupil contracted so much as to appear as only a small black spot. The bird always sat, when perched, with two toes before and two behind, puffing out its feathers at times so that it looked nearly as round as a ball. The white markings were more clearly defined than in the other, extending farther back on the forehead, and entirely round the outer edge of the disc. This specimen is in the collection of Dr. J. W. Velie, who also found one dead on the lake shore at Hyde Park, Ill. July 16 a third juvenile was shot in a poplar-tree opposite my residence. It was still more advanced toward adult plumage than either of the others, especially about the head and wings. J. Strickland (taxidermist) has a young specimen which was caught here about a year ago. December 20 Mr. G. F. Clingman shot an adult female in Acadian Grove, and March 4, 1876, a second specimen was shot in the same place. These, with one male and two females which are also in collections here, make a total of twenty, including two adult males, fourteen adult females, and four in immature plumage. — H. K. Coale, *Chicago, Ill.*

Probable Breeding of the Acadian Owl (*Nyctale acadica*) in Massachusetts. — The capture of this species in the adult state is by no means of rare occurrence in Massachusetts, but its presence is generally detected in the winter months. Of its breeding so far south in New England I think there has hitherto been no instance recorded. We are now able, however, to note the capture of three specimens in the plumage of the so-called "*albifrons*." The first was taken in Newton, Mass., on June 28, 1876 ; and the second at Hingham, Mass., on July 5, 1876 ; the third was captured in one of the cells in the Penitentiary on Deer Island, Boston Harbor, on the 8th of the same month, by an inmate of the prison. These localities being some ten or fifteen miles apart, it would seem hardly probable that these three Owls belonged to the same brood. On April 4, 1877, a specimen in adult plumage was captured in the Penitentiary on Deer Island, where the above-mentioned immature specimen was taken. I am indebted to Mr. Wm. J. Knowlton, of Boston, for the above facts, and from him I obtained one of the young specimens. — Ruthven Deane, *Cambridge, Mass.*

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB.

Vol. II. OCTOBER, 1877. No. 4.

NOTES ON *MOLOTHRUS ÆNEUS*, WAGL.

BY J. C. MERRILL, ASSISTANT SURGEON, U. S. A.

THE occurrence of this species north of Mexico was noted in the Bulletin of November, 1876 (Vol. I, p. 88). It is now more than a year since it was first observed, and during that time I have had ample opportunity to study its habits, a short account of which may be of interest. This Cowbird is found in Mexico, Guatemala, and Veragua, as well as in Southern Texas; how far it penetrates into the latter State I am unable to say. My first specimens were taken at Hidalgo, on the Rio Grande, seventy miles northwest of Fort Brown, where, however, they are not so abundant as lower down the river. Here they are common throughout the year, a small proportion going south in winter. Those that remain gather in large flocks with the Long-tailed Grackles, common Cowbirds, and Brewer's, Red-winged, and Yellow-headed Blackbirds; they become very tame, and the abundance of food about the picket-lines attracts them for miles around. *M. æneus* is readily distinguishable in these mixed gatherings from the other species by its blood-red iris and its peculiar top-heavy appearance, caused by its habit of puffing out the feathers of the head and neck. This habit is most marked during the breeding-season and in the male, but is seen throughout the year.

About the middle of April the common Cowbird, Brewer's, and Yellow-headed Blackbirds leave for the North; the Long-tailed Grackles have formed their colonies in favorite clumps of mesquite trees; the Redwings that remain to breed have selected sites for their nests; the dwarf Cowbirds (*Molothrus pecoris* var. *obscurus*)

arrive from the South, and *M. æneus* gather in flocks by themselves, and wait for their victims to build. The males have now a variety of notes, somewhat resembling those of the common Cowbird (*Molothrus pecoris*), but more harsh. During the day they scatter over the surrounding country in little companies of one or two females and half a dozen males, returning at nightfall to the vicinity of the picket lines. While the females are feeding or resting in the shade of a bush, the males are eagerly paying their addresses by puffing out their feathers, as above noted, strutting up and down, and nodding and bowing in a very odd manner. Every now and then one of the males rises in the air, and, poising himself two or three feet above the female, flutters for a minute or two, following her if she moves away, and then descends to resume his puffing and bowing. This habit of fluttering in the air was what first attracted my attention to the species. In other respects their habits seem to be like those of the eastern Cowbird (*M. pecoris*).

My first egg of *M. æneus* was taken on May 14, 1876, in a Cardinal's nest. A few days before this a soldier brought me a similar egg, saying he found it in a Scissor-tail's (*Milvulus*) nest; not recognizing it at the time, I paid little attention to him, and did not keep the egg. I soon found several others, and have taken in all twenty-two specimens the past season. All but two of these were found in nests of the Bullock's, Hooded, and small Orchard Orioles (*Icterus spurius* var. *affinis*). It is a curious fact that although Yellow-breasted Chats and Red-winged Blackbirds breed abundantly in places most frequented by these Cowbirds, I have but once found the latter's egg in a Chat's nest, and never in a Redwing's, though I have looked in very many of them. Perhaps they feel that the line should be drawn somewhere, and select their cousins the Blackbirds as coming within it; the Dwarf Cowbirds are not troubled by this scruple, however. Several of these parasitic eggs were found under interesting conditions. On six occasions I have found an egg of both Cowbirds in the same nest; in four of these there were eggs of the rightful owner,* who was sitting; in the other two the Cowbird's eggs were alone in the nests, which

* It would be interesting to know what would have become of the three species in one nest, and had the latter been near the fort, where I could have visited them daily, I should not have taken the eggs. It is probable, however, that *M. æneus* would have disposed of the young Dwarf Cowbird as easily as of the young Orioles.

were deserted: but I have known the Hooded Oriole to sit on an egg of *M. æneus*, which was on the point of hatching when found; how its own disappeared I cannot say. Once two eggs of *æneus* were found in a nest of the small Orchard Oriole (var. *affinis*). Twice I have seen a broken egg of *æneus* under nests of Bullock's Oriole on which the owner was sitting.

Early in June a nest of the Hooded Oriole was found with four eggs and one of *M. æneus*, all of which I removed, leaving the nest. Happening to pass by it a few days later, I looked in, and to my surprise found two eggs of *æneus*, which were taken; these were so unlike that they were probably laid by different birds. Still another egg, and the last, was laid in the same nest within ten days. But the most remarkable instance was a nest of the small Orchard Oriole, found June 20, containing three eggs of *æneus*, while just beneath it was a whole egg of this parasite, also a broken one of this and of the Dwarf Cowbird (var. *obscurus*). Two of the eggs in the nest were rotten; the third, strange to say, contained a living embryo. As the nest was certainly deserted, I can only account for this by supposing that the two rotten ones were laid about the first week of June, when there was considerable rain, and that the other was deposited soon after, since which time the weather had been clear and very hot. On one occasion I found a female *æneus* hanging with a stout thread around its neck to a nest of the Bullock's Oriole. The nest contained one young one of this Cowbird, and it is probable that its parent, after depositing the egg, was entangled in the thread on hurriedly leaving the nest, and there died; it had apparently been dead about two weeks. This case supports the view that the eggs or young of the owner are thrown out by the young parasite, and not removed by its parent, though I could find no trace of them beneath the nest.

Twenty-two eggs of *M. æneus* average .90 × .70, the extremes being .95 × .75 and .82 × .65. The color is a *greenish-white, unspotted, soon fading to a dull opaque white.* There is more than the usual variation in shape. Some are almost perfectly elliptical, others are nearly round; some are quite pointed at the smaller end, while others still are there abruptly truncate.

The young, soon after leaving the nest, have the plumage uniform dull black; cheeks and sides of head bare; iris brown.

Fort Brown, Texas.

ON SEVENTY-FIVE DOUBTFUL WEST-COAST BIRDS.

BY J. G. COOPER, M. D.

In Ornithological works written previous to 1860 we find many species of birds mentioned as from "California" and the "Northwest Coast," which have not been confirmed as from that region, and are therefore not referred to in more recent works. It is an interesting question whether they were always wrongly allocated there, or whether they may not, in many cases, have actually occurred as stragglers, and deserve, therefore, a place in our Fauna. As an aid in deciding these questions, I have compiled a list of all I can find, with such remarks as seem required respecting the chances of their occurrence, based on my own experience as a collector there for more than twenty years, and the observations of others on their usual range of distribution.

In 1852 Professor Baird published in Stansbury's Report of his Exploration of the Great Salt Lake, p. 327, a list of such species as were then known, including all given by authors as from west of the Mississippi, but not figured by Audubon. The one hundred and fifty-three nominal species included ninety-one from the Pacific slope, of which only twenty have not been since confirmed as belonging to our Fauna. Most of these were referred to again in his "Birds of North America." Mr. Cassin undertook to figure and describe "all" of these in his "Illustrations," but was undoubtedly saved from the repetition of many errors by the extensive collections soon after made by the Pacific Railroad Expeditions, although he has introduced several not since found in the United States.

In Volume XII, Part II, p. 288, of the Pacific Railroad Reports ("Natural History of Washington Territory") Dr. Suckley and myself, in 1859–60, printed a hastily prepared list of birds, not confirmed by us as from the "Northwest Coast," most of which, however, do not require to be excluded at present, only twenty out of one hundred and twenty-three coming into this list. I have carefully reviewed every accessible authority, and included only such as are distinct species and not represented within the regions named by geographical races or near analogues, which might

reasonably be mistaken for them. The older authors in confounding the races were quite excusable in giving them the same specific names. Those now to be noticed come under three divisions as to geographical distribution, viz.: first, those of tropical and South America; second, those of Asia; third, those of the Eastern United States. All circumpolar species, even if not recently found on this coast, are omitted as very likely to be found. The probability of the occurrence of the others varies chiefly with the nearness of their usual range and their powers of flight, so that we may frequently consider their occurrence as next to impossible, as with the Mexican Quails and Jays which have been so often credited to "California."

What we know of the Asiatic stragglers to Alaska shows that they are usually strong flyers, and I may here mention two of the Raptores found only in California so far, and each but once, which have a very Asiatic aspect, viz. *Buteo cooperi* and *Onychotes gruberi*.

The first doubtful West-coast birds were given by Gmelin as from "Unalaska, Nootka," etc.; the next came from "Oregon"; and not until 1830 did species begin to be credited to "California." At that time the peninsula was included in this name, and yet very few species, if any, were wrongly located on that account, most of those not found in "Upper California" being now unknown on the peninsula, though often found on the West Mexican coast. The cool sea-breezes of the coast act as an obstacle to the northward migration of many tropical species occurring on the Atlantic coast in summer much farther north, while the Colorado Desert, over one hundred miles wide, debars many more from the hotter interior.

A few have been called "Californian" which occur about the Gulf, but not within sixty miles of our line, though of course the water-birds may follow so far up the Colorado River. Many were no doubt carelessly labelled by collectors, or designedly misrepresented as from regions then almost inaccessible, to increase their value.

As to "Oregon" of authors before 1853, it must also be remarked, that they included under the name the whole country drained by the Columbia River; and even now the State includes part of the "Middle Province" of Baird, in which are found birds not known from the coast. Captain Bendire is now for the first

time collecting thoroughly the birds of Eastern Oregon; and his published notes, as well as those of Allen and Henshaw for Utah, of Ridgway for Nevada, and Coues, Henshaw, and others for Arizona, show very clearly what species distinguish the Middle and Western Provinces. Although about fifty species of Land Birds are given in the first volume of "Ornithology of California," which belong properly to the Middle Province or to Lower California, their habitats are so carefully described there that it is not necessary to include the species here, except in a very few striking cases.

As shown by Professor Baird from the Xantus collection made at Cape Saint Lucas, the Middle Province birds become common on the coast and peninsula south of latitude thirty-five degrees, to the exclusion of most of the characteristic Californian species, while very few of those of tropical Mexico occur on the peninsula, so that the chances are largely against the occurrence of the latter within our limits. Assistance derived from original observations and investigations by scientific friends, often unpublished before, is acknowledged by giving their names as authority.

1. **Turdus flavirostris**, *Swains.*, 1827, = *T. rufopalliatus*, Lafres., 1840, "Monterey, Cal." An abundant West Mexican bird, which may straggle northward with flocks of *T. migratorius*, which it closely resembles in habits.

2. **Harporhynchus rufus** var. **longirostris** (*Lafres.*), 1838. "California and Mexico." The occurrence of this Eastern Mexican form is not improbable, and it may have been the bird seen by me at Clear Lake, Cal., as recorded in History of N. A. Birds, III, 500.

3. **Ægithina leucoptera**, *Vieill.*, 1807, "North America," = ? *Motacilla leucoptera*, Vig., 1839, "Western North America," Baird, List, 1852 (not of Quoy and Gaimard, which is a Palæotropical bird). If = *Sylvia leucoptera*, Wilson, Index, it is *Dendroica cærulescens*, not known far west of the Mississippi (Coues). [*Egithina leucoptera*, Vieill., according to Gray (Hand-List), is from India, while *M. leucoptera*, Vigors, is from Persia (Lawrence).]

4. **Sialia sialis** (*Linn.*). "Columbia River." Aud. Syn., 1839 (error ?). Not mentioned from there by Townsend nor Nuttall, who were then the chief authorities. Still it very probably will occur west of the Rocky Mountains. Some specimens of *S. mexicana* are stated to approach very near it, from which Audubon's statement may have arisen.

5. **Parus carolinensis**, *Aud.* "Oregon," Nuttall, 1840, by error for *P. atricapillus* var. *occidentalis*, which is very near it.

6. **Geothlypis velatus** (*Vieill.*) = *Trichas delafieldi*, Aud., 1839, Nutt., 1840, Heermann, 1858. "Oregon and California." It seems strange that a bird so common as *G. trichas* is in the East should be confounded with such a different South American species. Townsend's specimen was doubtless from South America, but Heermann's were only *G. trichas*. Lately recorded from Mazatlan, Mexico, and may therefore reach the Lower Colorado.

7. **Siurus auricapillus** (*Linn.*). "Oregon," Nuttall, 1840, and recently recorded from Idaho, as well as Alaska and Mazatlan. "California," Bonap., Notes Delat., 1853, but may have been obtained in Nicaragua. Still it very probably migrates occasionally through California.

8. **Dendrœca montana** (*Wils.*). "California," Aud., 1839–41, Nutt., 1840. There is no further information respecting this very rare and scarcely known bird than is given by the above-named authors.

9. **Dendrœca striata** (*Forst.*). "Oregon," Aud. Syn., 1839. Not given by Townsend nor Nuttall, though it should pass west of the Rocky Mountains in going from Alaska to the tropics. Yet it is not recorded as from the Rocky Mountains or Mexico.

10. **Dendrœca cærulea** (*Wils.*) = *azurea*, Steph. "Oregon," Townsend's List, 1839, Aud., 1839, Nutt., 1840. Recently found west of the Rocky Mountains, so that it may not have been confounded by Townsend, etc., with *Polioptila*, as I suspected. It has not been detected near the coast.

11. **Setophaga ruticilla** (*Linn.*). "California," Bonap., Notes Delat., 1853, but was perhaps from Nicaragua. Still, as it is common throughout the Rocky Mountains in summer, it may occur in California, though not known from Western Mexico.

12. **Collocalia ? unalaschkensis** (*Gmel.*). According to Cassin (Illust., 1855, 251), Gmelin's bird belongs to the genus *Collocalia*, which is peculiar to the Pacific (tropical) islands, Japan, etc. If really found on the Aleutian Islands, some may be expected to straggle to our coast in winter, with other Asiatic species found there by Dall.

13 **Hypocolius ampelinus**, *Bonap.*, 1850 (Consp.). "California." This species is now known to be from Sennaar, Upper Egypt, and is undoubtedly to be removed from the list of West-coast birds.

14. **Lanius lahtora**, *Sykes*, = *L. elegans*, Swains., 1831, Nutt., 1840. Supposed to have been received from Northwest America, but it inhabits Siberia. Stragglers may, however, cross Behring's Straits, like several other birds. "*L. elegans*" of other American authors is *Collurio ludovicianus* (L.) var. *robustus*, Baird, 1873.

15. **Vireo agilis**, *Licht.*, 1823, = *V. virescens*, Cass., not of Vieill., which is *V. bartrami*, Swains., 1831; not of Aud., 1839, nor Nuttall, 1840. This species, confounded by former authors with *V. gilvus* var. *swainsoni*, has not been found north of Mexico, nor perhaps in North America, unless Douglas really found it at the Columbia River, as supposed by Swainson.

16. **Coccothraustes ferreirostris**, *Vigors*, 1839, = *papa*, Kittl., 1830. "California," Baird, 1852.* [This is now recognized as the *papa* of Kittlitz from the Bonin Islands (Allen).]

17. **Pyrrhula inornata**, *Vigors*, 1839. "Northwest coast of America," Baird, List, 1852. Probably Asiatic; certainly not North American.

18. **Ramphopis flammigerus**, *Jard.*, about 1830, "Columbia River." [Now known to be South American, — Columbia, Sclater and Salvin; New Grenada, Gray (Allen).]

19. **Chrysopoga typica**, *Bonap.*, 1850. "California." [A Mexican and Central American species, not yet confirmed as from California (Allen).]

20. "**Emberiza**" **atricapilla**, *Gmel.*, 1788, *Aud.*, 1839–41. These authors confound this Sandwich Island bird with the *Zonotrichia coronata*, Pall., a common California bird described in 1831.

21. "**Fringilla maculata**," *Aud.*, 1839 (Townsend's List), was a confusing of *Hedymeles melanocephalus*, Swains., with some foreign species, perhaps *Pipilo maculata*, Swains. It occurs only in Audubon's plate. †

22. **Pyrgisoma biarcuatus** (*Lafres.*), 1855, "California," is a Central American bird.

23. **Saltator rufiventris**, *Vigors*, 1839, "West coast of North America," Baird, List, 1852. [A Bolivian species (Allen).]

24. **Icterus baltimore** (*Linn.*), "Columbia River." Aud. Syn., 1839. No authority is given, and it is not mentioned by Townsend or Nuttall. Like the *Sialia*, it can only be a straggler.

25. **Icterus pustulatus**, *Licht.*, "California," Bonap., Notes Delatt., 1853, probably for Nicaragua. Some of these species may be looked for along the Colorado River.

26. **Icterus "californicus"** (*Lesson*), 1844; "California," Bonap., Consp., 1850. [This is a synonym of *I. pustulatus* (Lawrence).]

27. **Icterus icterocephalus** (*Linn.*), Bonap., 1825, Nuttall, 1832–40. This well-known South American bird was only at first confounded with our *Xanthocephalus*, and should not have been credited to California by Nuttall.

28. **Xanthornus mexicanus** (*Briss.*). "Pacific coast of (North?) America," Baird, List, 1852. [Probably *Gymnomystax melanicterus* (Vieill.) of tropical America (Allen).]

29. **Trupialis militaris** (*Linn.*). "Monterey, Cal.," Neboux, Voy. de la Venus, 1855; "San Francisco," Cutts, in Baird's N. A. Birds, 1858.

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* *Chrysomitris yarrelli* (Aud.) and *Hypocanthus stanleyi* (Aud.) are now generally believed to be (if not hybrid cage-birds) from South America, and as he gives no authority for "Upper California," they may be omitted.

† *Pectrophanes maccowni*, Lawr., is quoted from "California" by Cassin (Ill., p. 229), but has not lately been found west of Arizona. *Calamospiza bicolor*, Towns., before reported doubtfully from "California," has been found as a rare bird near Tulare Lake, by Mr. W. A. Cooper.

Although not recently obtained in North America, it has thus been twice reported from California.

30. **Quiscalus major**, *Vieill.* "California," Gambel, 1847, but he obtained it only at Mazatlan. It may be looked for on the Lower Colorado.

31. **Quiscalus purpureus** (*Bartr.*). "Oregon," Aud., 1839, without authority. "California," Gambel, 1847, Newberry, 1857, who probably both mistook *Scolecophagus cyanocephalus* for it; no specimens are known from the west slope. *S. ferrugineus* (Gm.), "Oregon," Townsend, was obtained there by Peale, and is common in Alaska.

32. **Corvus ossifragus**, *Wils.* "Oregon," Townsend's List, Aud. Syn., 1839; "California," Woodhouse, 1853; all mistaking *C. americanus* var. *caurinus* for it.

33. **Cyanocitta beecheyi** (*Vigors*), 1829. "California," Botta in Eydoux's Voy. de la Favorite, 1839, but not known from the peninsula recently, or found north of Mexico.

34. **Cyanocitta ultramarina** (*Temm.*). Audubon (1839–40) and Nuttall (1840) confounded this Mexican species with *C. californica* (Vig.). The var. *arizonæ*, Ridgw., may reach California at the Lower Colorado River.

35. **Calocitta colliei** (*Vigor*), 1829, = *Pica bullocki*, Aud., 1831–42 (not of Wagler), Nuttall, 1840, both of whom described it as from the "Columbia River," but without good authority, while Nuttall denies ever having seen it there or in California. It probably does not even straggle north of Mazatlan, Mexico.

36. **Cyanocorax geoffroyi**, *Bonap.*, 1850. "California." [This is a synonym of *Cyanocitta beecheyi* (Lawrence).]

37. **Sayornis fuscus** (*Gmel.*). "Oregon," Townsend's List, 1839, but it is not now known west of long. 100°. He may have mistaken *S. nigricans* for it, as that reaches Southern Oregon.*

38. **Antrostomus? macromystax** (*Wagl.*), Cassin, p. 240. "California," from a label in Mus. Phil. Acad. A well-known Mexican species.

39. **Antrostomus nigrescens**? *Cab.*, = *A.* "*californianus*," Bonap., 1850, New Grenada. I think some of the larger tropical species of this family may stray into California, as I saw what appeared to be one as large as *A. carolinensis* in Ventura County in 1872, but could not obtain it, and heard no note.

40. **Picus lineatus**, *Linn.* "Oregon," Aud., 1839–41, from a specimen in Edinburgh "sent by Dr. Gairdner." Not known from North America, and was probably collected in South America.

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* *Saurophagus bairdi*, Gamb., 1847, has been attributed to California, but was given by the author as from the Gulf Region of Mexico. It is South American, and has not recently been reported from Mexico.

41. **Dryotomus delattri**, *Bonap.*, 1854. Doubtless labelled "California" by error for Nicaragua.

42. **Campephilus imperialis** (*Gould*), 1832. "California," Aud., 1839, Nutt., 1840, Cassin (figured), 1855. Although Nuttall states that Townsend shot a specimen in the Rocky Mountains, near the head of the Colorado River, it is not mentioned in Townsend's List, nor figured by Audubon. Townsend, however, states that he shot, but lost, a Woodpecker resembling this on Malade River (now in Idaho). Cassin gives reasons for supposing it may also occur in California, and it is to be looked for in Arizona.

43. **Melanerpes erythrocephalus** (*Linn.*). "California," Gambel, 1847, Baird in Ornith. of Cal., 1870. Dr. Gambel does not seem to have preserved any specimens, and as no later collectors have found it west of Salt Lake City ("one seen," Ridgway), its occurrence in California must be merely accidental.

44. **Ceryle americana** (*Gmel.*). "Colorado River," Coues, 1866. As Dr. Coues only thought he saw this species along the river, and as such a large bird could scarcely escape the many collectors who have been at Fort Yuma and along the Gila River (whose clear waters are better suited for it than the muddy Colorado), we may doubt its occurrence until specimens are obtained, its range in Texas not being north of lat. 30°.

45. **Haliaëtus pelagicus** (*Pall.*), 1831. "Aleutian Islands." Although not obtained by late collectors in that region, its occurrence as a frequent visitor from Kamtschatka is more probable even than that of *H. albicilla* to Greenland, and it may be looked for at least as far south as lat. 50° on our coast.

46. **Syrnium nebulosum** (*Forst.*). "California," Woodhouse, 1853. The birds seen by him in Arizona, also, were probably *S. occidentale*, Xantus, 1859. See Baird in Orn. of Cal., 1870, p. 431. There are several instances besides this in which southern species of Owls do not extend across the continent, although those of the arctic regions, being mostly circumpolar, are common to both sides. Thus *Nyctale tengmalmi* might have been included in the Orn. of Cal. instead of this, it having been found in Oregon by Townsend.

47. **Catharista atrata** (*Bartr.*). "Columbia River," Douglass in Faun. Bor. Am., 1831, Aud., 1839, Peale, 1848, Cassin, Ill., 1853, 1858. It is possible that these references were to the young of *Rhinogryphus aura*, although an actual specimen seems to be alluded to. Dr. Gambel found it quite common about the Gulf of California, but does not add California as in other cases, nor has it been detected, though very likely to be, along the Colorado.

48. **Sarcorhamphus gryphus** (*Linn.*). "Southwestern States," Bonap., 1828–33; "Rocky Mountains," 1832–40, quoting Lewis and Clarke's "bustards," and the bill and talons brought by them to Peale's Museum. These were, however, probably those of *Pseudogryphus califor-*

nianus, and from the Lower Columbia River. The Condor is doubtless confined to South America, though quite able to visit our latitude.

49. **Melopelia leucoptera** (*Linn.*). This species, common in Arizona, has not been collected in California, but in 1853 I saw white-winged wild Pigeons, which I then had no doubt were this species, in the San Francisco market. As they are often caged in Mexico, these may have come from there, but it is also very probable that they may wander so far, like the little Ground Dove, which has been shot at San Francisco.

50. **Ortyx fasciatus**, *Nutterer* MSS. "California," Gould, 1843, but it is not now known north of Colima, Mex., and not at all likely to be found north of that point.

51. **Lophortyx elegans** (*Lesson*), 1831. "Upper California," Nuttall, 1840, who, however, did not see it. Found at Mazatlan, but not much to the northward. *L. douglassi*, Vig., is probably young of *L. californicus*.

52. **Eupsychortyx cristatus** (*Linn.*) = *O. neoxenus*, Vig., 1830, Aud., 1839–42, Nutt., 1840. "Northwest coast of America," Beechey; "California," Audubon. This species is not given in any recent lists of birds of western tropical America. Beechey's specimen may have been a cage-bird, or obtained in Costa Rica.

53. **Gambetta flavipes** (*Gmel.*). "Oregon," Townsend, 1839; "California," Woodhouse, 1853, Newberry, 1857. Although some undoubtedly occur for a considerable distance west of the Rocky Mountains and in Alaska, it is a curious fact that no specimen seems to have been collected in California, Nevada, or Arizona, nor have I seen it, while the larger species is abundant.

54. **Hæmatopus ater**, *Vieill.*, = *H. townsendi*, Aud., 1839. "Oregon," Aud., not Townsend. Doubtless collected in South America, but, like other shore birds, may be also more or less common to the coast of North America.

55. **Numenius rufiventris**, *Vig.*, 1828. "Pacific coast of North America." The name would apply well to a common variety of *N. longirostris;* but it is not yet quoted as a synonym of that species, though there seems to be no other species on the coast to which it is referable.*

56. **Grus americana**, *Forst.* "Oregon and California," Townsend and Audubon, 1839. The error arose from confounding *G. canadensis* with this, which is not now known to go west of long. 100°.

57. **Audubonia occidentalis** (*Aud.*). "California," Gambel, 1847, "to Columbia River"; Newberry, 1857. No specimens were obtained, and they no doubt mistook the large var. "*californica*" of *Ardea egretta* for it.

58. **Platalea ajaja**, *Linn.* = "*P. mexicana*,"? Willoughby. "California to San Francisco," Gambel, 1847. Not seen since then north of the Gulf of

* *Actodromus* "*bonapartei*," Cassin, 1858, not of Schlegel, was confounded by him with *A. bairdi*, Coues, 1861, and is still doubtful as a West-coast bird, as is the more northern and Alaskan *Actiturus bartramius* (Wils.).

California, and not very likely to straggle so far north, although *Tantalus loculator* visits San Francisco Bay and vicinity every year. Could he have been deceived by hearing *Spatula clypeata* called "Spoon-bill"?

59. **Anser segetum** (*Gmel.*). "Probably on Northwest coast in winter," Nuttall, 1832. The evidence for the occurrence of this species anywhere in North America is very slight, although it is quoted by Swainson and Richardson from Hearne. [Doubtless *A. canadensis* (Coues).]

60. **Anas obscura**, *Gmel.* "Oregon," Aud., 1839, Townsend's List, "California," Woodhouse, 1853. This, probably a melanistic form of the Mallard, has not recently been found west of Utah. (See Henshaw, Rept., 1875.)

61. **Dafila urophasiana** (*Vig.*), 1829. "Northwest coast." This South American species has not been confirmed as from North America, and, if found, occurs only as a straggler.

62. **Larus belcheri**, *Vig.*, 1829. "Pacific coast of North America." Though confounded by some with *L. heermanni*, this species is probably limited to South America, and the range of the two species does not meet.

63. **Chrœcocephalus atricilla** (*Linn.*). "Colorado River," Coues, 1868, but not yet obtained on Pacific side north of Cape Saint Lucas.

64. **Sterna antillarum** (*Less.*). In exactly the same category as the last.

65. **Hydrochelidon nigrum** (*Linn.*). "Oregon," Towns., 1839; "California," Heermann, 1858. According to Coues (Mon. Laridæ), the common American bird is *H. lariformis* (Linn.), so that the *H. nigrum* is not likely to occur, except as a straggler, in the West, where all I have seen were the common kind. [This is probably what Townsend and Heermann meant by "*nigrum*" (Coues). Saunders (Proc. Zool. Soc. 1876, p. 642) makes them identical (Lawrence).]

66. **Xema furcatum** (*Néboux*), 1840. "Coast of California." As this remarkable species has not been confirmed from the West coast, the locality may well be doubted, like too many recorded by the same author. [Recently stated by Salvin to be an inhabitant of the Gallapagos (Lawrence).]

67. **Graculus carbo** (*Linn.*). "Nootka Sound," Nutt., 1834, "Oregon," Towns., 1839. Not confirmed by collections from the West coast, and no doubt confounded with other species.

68. **Sula bassana** (*Linn.*). "Northwest coast of America," Nutt., 1834.

69. **Sula fiber** (*Linn.*) = *fusca*, Vieill. "Off coast of California from San Francisco south," Newberry, 1857. The species seen were probably *S. piscator* (Linn.), and *S. cyanops*, Sund., which have been obtained from the West Mexican coast, but not farther north, and I have not seen them along the coast north of lat. 30° during several voyages.

70. **Diomedea chlororhyncha** (*Gmel.*). "Off the coast of Oregon,"

Towns., 1839, Aud., 1839–44. Audubon's figured type proves to be *D. culminata*, Gould, and was probably obtained too far from our coast to be included in its Avifauna, as none have been found lately alongshore or in sight of land. Townsend does not include it in his list of Oregon birds.

71. **Diomedea fuliginosa**, *Gmel.*, = *D. fusca*, Aud., 1839–44. Included in Townsend's List, but not recently confirmed, and as he does not mention *D. nigripes*, Aud., he may have referred to the type of that species. The South Pacific *D. exulans* and *Daption capensis* should also be excluded.

72. **Æstrelata hæsitata** (*Kuhl.*). "California," Lawrence, 1853, by error for *Priofinus cinereus* (Gmel.). No record of the former from the Pacific.

73. **Puffinus obscurus** (*Gmel.*). "Northwest coast of America," Nuttall, 1834. No late record of its occurrence in the Pacific.

74. **Podiceps minor** (*Gmel.*). "Oregon," Townsend, 1839. Given by Nuttall as North American, but not lately obtained, being a common European species, and confounded by Townsend with either *P. cornutus* or *P. auritus*.

75. **Podiceps dominicus** (*Linn.*). "California," Gambel, 1847. Probably not obtained north of the Gulf, and not confirmed as living north of lat. 32°.

REMARKS ON *SELASPHORUS ALLENI*, HENSHAW.

BY D. G. ELLIOT.

I HAD commenced an article in reference to the two forms of the *Selasphorus rufus* of authors, as observed in California and Mexico, when the July number of the Bulletin of the Nuttall Ornithological Club reached me, containing an interesting paper by Mr. Henshaw, on the California bird, which he describes as new under the name of *S. alleni*. That there are two well-defined *species*, as the term is usually understood nowadays, I have for a long time been well satisfied in my own mind, and the peculiar shape of the lateral rectrices would seem to be sufficient to establish the specific differences of the two birds. Mr. Henshaw has done good service in pointing these out; but unfortunately he has conferred a new name upon the wrong bird, for it is the southern form that requires to be designated, and not the northern, or to be perhaps more exact, it is the red-backed bird with the broad tail-feathers, and not the green-backed one with the narrow tail-feathers, that is in need of a name.

To prove this it would be necessary to go back in the history of the species, and commence at the beginning. Gmelin seems to be the first author who conferred a Latin name upon the Rufous-throated Hummer, which he did in his "Systema Naturæ" (1788), Vol. I, p. 497, sp. 57, and described it as follows: "Trochilus rufus . . . . rostrum pedesque nigri; colli pennæ laterales nonnullæ elongatæ mobiles; tectrices alarum obscure virescentes; rectrices splendide rufæ *acuminatæ*, linea media longitudinali et apice nigris; *cauda cuneata*." Moreover, he gives the habitat as "in sinu Americæ Natka," and quotes as his synonyms the Ruffed Honey-Sucker of Pennant's "Arctic Zoölogy," Vol. II, p. 290, No. 177, and the Ruff-necked Humming-Bird of Latham's "Synopsis," Vol. II, p. 785, No. 56, t. 35, whose specimen, as Latham informs us, came from Nootka Sound. Now, as it is well known that the southern bird with the broad rectrices has a wide dispersion, going far to the north on the Pacific coast, it might be said, "How are we to know that the specimen from Nootka Sound was not this species, and that it was the one called *alleni* by Mr. Henshaw?" Fortunately this can be satisfactorily determined, and all doubts removed, by turning to the "Fauna Boreali Americana" (Birds), and on page 324 we find that Swainson, in his article on the *Trochilus* (*Selasphorus*) *rufus* of Gmelin, makes the following statement: "The discovery of this superb species in the cold and inhospitable regions of Nootka Sound is due to our great navigator, Captain Cook, while to Dr. Latham belongs the honor of first making it known to science. *By a singular chance we have at this moment before us one of the identical specimens, in perfect preservation, collected by the naturalists of that expedition;* it was presented by the late Sir Joseph Banks to Mr. Bullock, and was purchased by us at a very high price at the dispersion of that collector's museum by public auction." In his description of the *form* of this bird, he says: "The *tail*, although short, is more cuneated than rounded, the two middle pairs being longest, *all are narrowed and obtusely pointed at their extremities, but the two outer pairs are particularly narrow*." It will thus be seen, I think, that the species described by Gmelin from Nootka Sound was, without doubt, the bird with narrow rectrices, as Swainson's specimen was a typical one, if indeed it may not have been the original type; and he was too keen a naturalist not to have noticed the peculiar notch in the rectrices next the median pair, observed in the bird with the broad tail-feathers. He also speaks of the throat as being equally

brilliant with that of *T. moschilus* (!) (which, so far as I have seen, is never the case with the other species), and it has, he says, more of a *red* than an *orange* gloss," and the tints are "exquisitely splendid"; a perfectly accurate description of the California bird, but not of the other, which has the gorget *orange*, and not at all brilliant. To come a little nearer to our own time, we have Audubon, who, in his "Birds of America" (8vo edition, Vol. IV, p. 202), thus describes the *Selasphorus rufus* as he knew it from the specimens collected on the Blue Mountains of the Columbia River and at Nootka Sound by Messrs. Nuttall and Townsend: "Tail rather long, broad, graduated, the lateral feathers four and a half twelfths of an inch shorter than the central; the latter are extremely broad, measuring four and a half twelfths across, and the rest gradually diminish to the lateral, which *are very narrow*, all obtusely pointed." Not a word, it will be noticed, is said of the notch on the first rectrices from the central ones. The throat is also stated to be "splendent fire-red," etc. Baird, in the "Birds of North America" (1860), p. 134, in his description of the *S. rufus*, says that "the tail is strongly cuneate; the outer feather .40 of an inch shorter than the middle, which projects .14 of an inch beyond the rest. *The outer feather is very narrow, not exceeding* .11 *of an inch in width*; the rest widen and lengthen rapidly to the central one, which is very broad (.35 of an inch); the central feathers are all ovate-acuminate. The entire throat, including a short ruff on the side of the neck (about .40 of an inch long), is *metallic red*, of the same shade as in the Ruby-throat, although with brassy reflections in some lights." Gould, in his "Monograph of the *Trochilidæ*," has apparently confused the two species together, but he makes no mention of the *notched* rectrices, but states they are all of a "broad lanceolate form," and his figures would seem to be taken from the California bird. I might go on and multiply the instances where writers in their descriptions of *S. rufus* have spoken only of the birds with the narrow rectrices, although, as in Mr. Gould's case, they may have had both Californian and Mexican specimens before them, but, regarding them as one species, they have always selected for their descriptions the specimens with the brilliant throats (as being in more perfect plumage, as they supposed), rather than the duller-throated examples, and so these last have escaped receiving a distinctive name, as they deserved. But I think enough has been said to show that authors generally, and the older ones especially,

always described the bird with all the lateral rectrices narrow, and destitute of any notch.

I have not said anything, in comparing the species, about the color of the back, as I consider this is not altogether a satisfactory character by which to distinguish the birds, though Mr. Henshaw makes it one of his principal ones. Latham, in his original description, states that the "crown" was "glossy green," and also that there was a "greenish gloss between the wings." In the first place, the females of both are entirely green in their upper surface, and this is not always pure green, as I have specimens now before me, collected by Boucard at Oaxaca, Mexico, in which the back is a yellowish-bronze, precisely like young males in my collection from California of the other form, collected by Dr. Heermann. Again, I have young males, also collected by Boucard at Oaxaca, which have the back of such a curious reddish-cinnamon that it is difficult to say what color it exactly is; and Mr. Henshaw says, in his article (p. 55), that "in California, however, where the *S. rufus* occurs in its typical condition, that is, with an unmixed rufous back, *specimens are not uncommonly found which exhibit a strong approach to the coloration of* S. alleni"; although, as he farther says, "they never apppear to pass beyond a certain point." It is, however, indisputable, that the two species do vary in the amount of green upon their upper surface, and also that at times they approach each other in coloration so nearly that, were there no other differences existing, it would be impossible to separate them. For this reason I do not place much reliance upon the amount of green on the back as a *specific character*. But there are other differences, I think, not mentioned by Mr. Henshaw, to be observed in the females, by which this sex of the two species can be distinguished. The female of the Mexican* species has the rectrices broad.

In addition to the superior width of its rectrices, the Mexican bird has the lateral tail-feathers, for more than a third of their length in the central portion, jet black, the base light rufous, and the tips white, so that when the tail is closed, and looked at from

* I use the terms *Mexican* and *Californian* to designate the birds with broad and narrow rectrices respectively, for the term *rufous* has been so misapplied that I cannot employ it at present without risk of adding to the confusion. At the same time the bird called *alleni* is not restricted to California, as I have already shown, but goes as far north at least as Nootka Sound, and may in winter pass into Lower California, perhaps into Mexico.

beneath, it appears all black, tipped with white. In the other species the rufous of the basal portion is more extended, and the blackish bar narrower, and does not occupy all the space between the tips of the under-coverts and the white tips, at least on the lateral feathers. I do not think that the females have any metallic feathers on the throat; those mentioned as females, with these feathers, being usually young males. These last generally have the median rectrices cinnamon, the tips only being metallic green. As, therefore, it will be necessary to bestow a new name upon the bird with the metallic-orange throat and notched rectrices next to the central pair, the synonymy of the species will stand somewhat as below.

The descriptions are taken from specimens in my collection from California and Mexico respectively.

Selasphorus rufus.

Trochilus rufus. GMEL., Syst. Nat., Vol. I, p. 497. (1788.)

Ruff-necked Humming-Bird, LATH., Gen. Syn., Vol. II, p. 785, pl. 35. (1781.)

Trochilus (Selasphorus) rufus, SWAINS., Faun. Bor. Amer., Vol. II, p. 324. (1831.)

Selasphorus rufus, AUD., B. Amer., 8vo ed. Vol. IV, p. 200. BAIRD, B. Amer. (1860), p. 134. GOULD, Mon. Troch., Vol. III, pl. 137 (partim).

Selasphorus ruber, BON., Consp. Gen. Av., p. 82.

Orthismya soisin, LESS., Hist. Nat. Ois. Monch., p. 190, pls. 66, 67.

Selasphorus alleni, HENSHAW, Bull. Nutt. Ornith. Club, Vol. II, p. 54 (1877).

Habitat. In summer the Pacific coast of America from California to Nootka Sound. In winter — ?

S. RUFUS, ♂. S. HENSHAWI, ♂.*

Male. Top of head and back bronzy-green, dullest on the forehead. Sides of the head, rump, flank, abdomen, and under tail-coverts rufous. A gorget of metallic feathers, covering all the throat and extending on to the sides of the neck, brilliant coppery-red, with brassy reflections in certain lights. Upper part of breast white. Wings purplish-brown. Tail short, cuneate,

* Figures reprinted from Mr. Henshaw's article (this volume, p. 53), with change of names.

all the feathers acutely pointed. Median rectrices rather broad, lateral ones narrowing rapidly to the outermost, which is extremely narrow. Bill straight, black.

Female. Above entirely green, with a slight cinnamon shade on the rump. Under surface grayish-white, with a slight brownish tinge on the breast. Tail-feathers rufous at base, then a narrow subterminal bar of violaceous-black, and tipped with white.

The next species I propose to call

Selasphorus henshawi.

Trochilus rufus, HENSHAW, Bull. Nutt. Ornith. Club, Vol. II, p. 53 (1877).

Habitat. Mexico, northward along the Pacific coast to Sitka.

Male. Top of the head metallic-green, rest of upper parts cinnamon, but some specimens have green feathers intermixed with the rufous on the back. Throat metallic-orange, not brilliant as in the other species. Breast, and the centre of the abdomen, white; flanks and under tail-coverts rufous. Tail rufous, tipped with dark brown; feathers pointed at tip, median pair broad, lateral ones growing narrower to the outermost, which is the most attenuated. *On the inner web near the tip of the rectrices next the central pair is a conspicuous well-developed notch.* Bill black. Total length, $3\frac{3}{4}$ inches; wing, $1\frac{1}{2}$; tail, $1\frac{3}{8}$; culmen, $\frac{5}{8}$.

Female. Entire upper parts shining grass-green, dullest on the crown. Throat white, spotted with brown. Under parts white; washed with rufous on the breast and flanks. Under tail-coverts buff. Median rectrices green; lateral ones rufous at base, then a band of metallic-green, succeeded by a subterminal broad black bar, and tips white. Bill black. Length, $3\frac{1}{2}$ inches; wing, $1\frac{7}{8}$; tail, $1\frac{1}{2}$; culmen, $\frac{5}{8}$. Young males similar to the females, with a few metallic spots on the throat.

THE YELLOW-THROATED WARBLER (*DENDRŒCA DOMINICA*).

BY WILLIAM BREWSTER.

IT is indeed surprising that a bird so generally distributed throughout the Southern States as the above-named species should be so little known. In "History of North American Birds" (Vol. I, p. 241), Dr. Brewer prefaces his account of its habits by the remark that its history "is very imperfectly known," and then proceeds to draw upon the meagre and conflicting descriptions given by Wilson, Audubon, and Nuttall. Although I cannot myself claim an ac-

quaintance of very long standing with this beautiful little species, still for five or six weeks during the past spring scarcely a day passed that I did not see one or more individuals. I first met with them at Mellonville, Florida, where, on March 14, I shot two specimens, both females, in the pine woods near the town. They were associated with Pine Warblers, Nuthatches, and Woodpeckers. During a trip up the Wekiva River, March 19 to 23 inclusive, I heard at frequent intervals a Warbler that I did not recognize singing in the cypresses, but from the impenetrable nature of the swamps, and the great height of the trees, I was unable to get even a glimpse of the bird. A week later, while descending the St. John's River by steamer, I again constantly heard, both from the cypress swamps and the open piny woods, the notes of this, to me, unknown species, and although I felt almost certain of its identity, it was not until I reached St. Mary's, Georgia, that I proved to my satisfaction that my suspicions were correct. There, from the 6th of April to the 4th of May, I enjoyed abundant opportunities of studying its habits, for it was everywhere, in suitable localities, if not one of the most abundant, at least a generally distributed species. At the time of my arrival the males were in full song and mating. A few individuals haunted the moss-hung live-oaks that shaded the village streets, but the open piny woods were their favorite abode. There, with the Summer Redbird (*Pyranga æstiva*), the Pine Warbler (*Dendrœca pinus*), the Brown-headed Nuthatch (*Sitta pusilla*), and a variety of Woodpeckers, they frequented the beautiful Southern pines. Indeed, so great was their attachment to this tree that, with the exception of those heard in the cypress swamps of the Upper St. John's, and the few that inhabited the oaks in the town, I do not remember to have seen one in any other tree. So marked and unvarying was this preference, that on more than one occasion I made use of the notes of this bird to guide me out of some bewildering thicket, feeling sure that beyond where it was singing I should find the more open pine-clad country.

Nearly all the authors who have written on the Yellow-throated Warbler from personal observation compare his movements along the branches to those of the Black-and-white Creeper (*Mniotilta varia*). At first I was inclined to the same opinion, but after my eagerness to secure specimens had somewhat abated, through success in collecting them, I felt more at leisure to watch the pretty little birds before taking their innocent lives, and, having spent many hours in

carefully studying their habits, I became convinced of the error of my earlier impressions. Their movements are much slower than those of the *Mniotilta*, and there is less of that crouching, creeping motion. They do, indeed, spend much of their time searching the larger branches for food, but it is much more in the manner of the Pine Warbler, and their motion is rather a hopping than a creeping one. I have never seen them ascend the trees from the roots to the topmost branches, as Audubon relates, but I occasionally observed one clinging against the main trunk for a moment, to seize an insect, as will the Bluebird (*Sialia sialis*) and many of the Warblers. Their hunting-ground is for the most part, however, among the higher branches, and a considerable part of their time is spent at the extremities of the limbs, searching for food among the pine needles. Their bright yellow throats, brought out by contrast with the dark evergreen foliage, give them a certain resemblance to the Blackburnian Warbler (*Dendræca blackburniæ*). The males are not very persistent singers. I rarely heard them during the warm hours of the day, even when pairing was almost their sole occupation. Their song is very pretty; it may be nearly imitated by the syllables *Twsee-twsee-twsee, twsee-see*, the last two rising and terminating abruptly. It most nearly resembles that of the Nashville Warbler (*Helminthophaga rufícapilla*), beginning in almost the same way, but ending differently, and, indeed, throughout the notes are much sweeter. Both sexes utter a chirp similar to that of other Warblers, but sharper.

By the middle of April there was a marked decrease in the number of Yellow-throated Warblers about St. Mary's. This was partly owing to my having shot many for specimens, but not entirely to this, for extended researches over new ground convinced me that the greater number had passed on, probably to the northward. A few, however, still remained; perhaps on an average one pair to every hundred acres of pine forest. While collecting near St. Mary's, April 18, I was in the act of shooting a female when I noticed that she was gathering material for building, and, tracing her flight, I was fortunate enough to discover her half-completed nest. Visiting the spot at frequent intervals, I invariably found both birds feeding among the pines in the vicinity, although the nest, as far as I could judge, seemed finished. At length, May 2, a friend, ascending the tree, found the female sitting. She remained on the nest until he nearly touched it, although the limb shook

violently under his weight. When she did finally leave it she sailed down into a smaller tree a few rods off, where she remained a silent and seemingly unconcerned spectator of what followed. The nest and its contents being safely lowered to the ground, I shot both the female and her mate. The latter was singing, as usual, a short distance off, and apparently took no more interest than the female in the destruction of their mutual hopes. Embryos of small size had already formed in the eggs, so that incubation must have begun three or four days previously. This nest was placed at the height of about thirty-five feet from the ground, on the stout horizontal branch of a Southern pine, one of a thinly scattered grove or belt that stretched along the edge of a densely wooded hummock. It was set flatly on the limb, — not saddled to it, — nearly midway between the juncture with the main trunk and the extremity of the twigs, and was attached to the rough bark by silky fibres. It is composed externally of a few short twigs and strips of bark bound together by Spanish moss (*Tillandsia usneoides*) and a silky down from plants. The lining consists of a few hair-like filaments of moss and soft cottony vegetable down. The whole structure is neatly and firmly compacted, though essentially simple in appearance, and, from the nature of the component materials, of a grayish inconspicuous color. In size, shape, and general formation it very nearly resembles nests of the Black-throated Green Warbler (*Dendræca virens*) in my collection. It measures externally 2.80 inches in diameter by 1.70 in depth; internally, 1.77 inches in diameter by 1.30 in depth. The eggs, four in number, measure .69 by .53 of an inch. They are quite regularly ovate, with fine dottings of pale lilac scattered thinly and evenly over a grayish-white ground-color. A few spots or blotches of burnt sienna occur about the large ends, while occasional irregular penlike lines of dark brown diversify the remaining surface.

Upon referring to published accounts of the nesting of this Warbler, I find the statements by the different authors most conflicting, and the authenticity of many of the specimens open to gravest doubt. Both Mr. Maynard (in "Birds of Florida," Part II, page 61) and Dr. Coues ("Birds of the Northwest," page 67) base their descriptions upon alleged specimens sent to the Smithsonian Institution by Mr. Norwood C. Giles, of Wilmington, N. C. Dr. Brewer refers to these specimens as "eggs supposed to be of this species," and Dr. Coues describes the nest as "built in a large mass

of Spanish moss," and as "composed chiefly of that material. A part of the moss which hung from an oak bough, two feet downward and a foot across, was caught up and closely woven together with a little fibrous substance and much plant-down, to form a swinging bed for the nest, with a lateral entrance which will admit the hand. Inside is the nest proper, of the usual dimensions, very neatly wrought of the moss, with a smooth even border, and lined with plant-down and a few fine grasses." From the great difference in the position and structure of the nest, there seems little reason to doubt that Mr. Giles was mistaken in his identification. Nuttall's account of "its curious fabric, suspended to a kind of rope which hangs from tree to tree," is manifestly fabulous, while Audubon's description is, to say the least, very vague and unsatisfactory, though, as far as it goes, it certainly most nearly approximates to the specimen before me.

From the number of individuals I saw near Savannah, Ga., May 5 (I heard in Bonaventure Cemetery four different males singing at one time), I am led to believe that the Yellow-throated Warbler breeds more abundantly in Northern Georgia (and perhaps in South and North Carolina) than farther south.

Recent Literature.

D'Hamonville's Enumeration of the Birds of Europe.* — The writer is indebted to his friend and correspondent, Baron D'Hamonville, for a copy of his recent Catalogue of the Birds of Europe, which deserves more than a mere mention on account of the admirably comprehensive manner in which it has been prepared. While it enumerates every form that has been claimed to have been taken within the limits of Europe, it is careful to designate in a significant manner the writer's mode of dissent. Thus, names believed to have no specific significance, or to represent a race rather than a species, are marked with a Greek minuscule; those whose presence is questioned are given with an interrogation sign, and those whose occurrence is exceptional are also designated. Thus divided, the Baron makes the whole number 658, as follows: —

* Catalogue des Oiseaux d'Europe, ou énumération des espèces et races d'oiseaux dont la présence, soit habituelle soit fortuite, a été dûment constatée dans les limites géographiques de l'Europe, par J. C. L. T. D'Hamonville. 8vo. pp. 74. Paris: 1876.

Species resident or of regular migration	425
Species of fortuitous occurrence	156
Species whose capture in Europe is disputed	22
European races	55
	658

The number of accidental visitors is surprisingly large, being about one fourth of the whole Catalogue, and is very nearly equally divided between Africa, Asia, and North America. These do not include those whose presence is disputed, though the number of the latter should probably be enlarged. Thus *Haliaëtus leucocephalus* is accepted without dispute, though its right to be included is generally questioned.

Appended is a list of the portion of the visitors to Europe from North America, with the region where taken : —

Nauclerus furcatus, England.
Accipiter atricapillus, Scotland.
Scops asio, England.
Picus villosus, England.
Picus pubescens, England.
Coccyzus americanus, England.
Coccyzus erythrophthalmus, Italy (Lucca).
Alcedo alcyon, Ireland.
Agelæus phœniceus, England.
Loxia leucoptera, England.
Anthus ludovicianus, Heligoland.
Turdus fuscescens, Pomerania.
Turdus pallasi, Switzerland.
Turdus swainsoni (not given).
Harporhynchus rufus, Heligoland.
Regulus calendula, England.
Dendræca virens, Heligoland.
Progne purpurea, England.
Hirundo bicolor, England.
Ectopistes migratorius, Russia, Norway, England.
Charadrius virginicus, Heligoland.
Charadrius fulvus, Malta.
Ægialitis vocifera, England.
Numenius hudsonicus, Iceland, England.
Numenius borealis, Scotland.
Macrorhamphus griseus, Northern Europe.
Tringa maculata, England.
Tringa bonapartei, England and France.
Tringa pusilla, England.
Trygnites rufescens, England, France, Heligoland.
Gambetta flavipes, England.
Rhyacophilus solitarius, Scotland.
Actitis macularia, Western Europe.
Bartramia longicauda, Central Europe.
Symphemia semipalmata, Sweden, France.
Botaurus lentiginosus, Germany, England.
Puffinus obscurus, France, England.
Puffinus fuliginosus, France, England.
Thalassidroma leucorrhoa, Western Europe.
Chroicocephalus atricilla, France, England.
Chroicocephalus philadelphia, England.
Xema sabinei, Northern Europe.
Mareca americana, England.
Querquedula discors, France.
Aix sponsa, England, France, Germany.
Fulix collaris, England.
Fulix affinis, England.
Clangula albeola, England.
Œdemia perspicillata, Western Europe.
Mergus cucullatus, France, England.
Uria columba, Greece (Von Heuglin).
Simorhynchus psittaculus, Sweden.

T. M. B.

MERRIAM'S "REVIEW OF THE BIRDS OF CONNECTICUT." * — Through

* A Review of the Birds of Connecticut, with Remarks on their Habits. By C. Hart Merriam. Transactions of the Connecticut Academy, Vol. IV, pp. —, 1877.

the kindness of the author we have received advance sheets of the above-cited paper, shortly to be issued under the auspices of the Connecticut Academy, as the first of a proposed series on the Fauna of that State. Since the appearance of Linsley's "Catalogue of the Birds of Connecticut" in 1843, no detailed enumeration of the birds of that State has been published. Hence the advent of Mr. Merriam's paper must be hailed with interest by all engaged in the study of New England Ornithology. The author gives in all two hundred and ninety-two species. Of these he arranges under special lists in tabular form, one hundred and thirty-five as "summer residents"; twenty which probably breed occasionally, but are not known to do so; forty-one resident species; ninety migrants; sixty-seven winter visitants; thirty-one irregular summer visitants; forty-six rare accidental visitants; and nineteen rare and irregular visitants. Following these is a tabulated analysis of Linsley's Catalogue, in which he eliminates sixty-three species given by that author on apparently insufficient authority, though many of these are afterwards included by Mr. Merriam upon more recent and tangible evidence. The Avifauna of Connecticut, though essentially Alleghanian in character, has been long known to embrace many Carolinian forms, but the relative extent of this "tinge," geographically as well as specifically, has been considerably developed by Mr. Merriam's careful researches. Thus, upon unimpeachable authority are given as birds of Connecticut, *Dendroica dominica*, *Lophophanes bicolor*, *Oporornis formosus*, *Cardinalis virginianus*, *Empidonax acadicus*, and *Centurus carolinus*, while, singularly enough, several species known only in the more northern New England States as spring and fall migrants have been found breeding. In the careful elaboration of interesting details culled from personal experience and the note-books of well-known and trustworthy field collectors, this paper is most rich. Indeed, if we may be permitted to qualify otherwise undiluted praise by a little censure, we should say that a judicious summarizing of data and incident would divest this paper of a great deal of unnecessary cumbersomeness. Still, it is perhaps better to err in this direction than in the other and too common one, and Mr. Merriam certainly deserves much credit for his arduous labors. — W. B.

General Notes.

Note on Doricha enicura (*Vieill.*). — About two years ago Mr. H. W. Henshaw submitted some birds to me for determination, among which was the female of a species of Humming-Bird obtained by him in Arizona, which I considered to be *Doricha enicura*, and it is so recorded in United States Geographical Survey W. of 100th Meridian, Vol. V, Chap. III. On a re-examination lately made, I find it was not properly referred, and a comparison with the female of *Calothorax lucifer* (Sw.) shows it to be that

species, which must now be included in our Fauna in place of *D. enicura*. At the time of my first examination I had no specimen of the female of *C. lucifer*, and was misled by the general similarity of coloring of the two species, especially the distribution of colors in the tail, both having it rufous at base, black in the middle, and white at the end; *D. enicura* has the tail-feathers narrower, and the rufous on their bases rather more in extent. The females of *Calothorax pulchra* and of *Myrtis fannia* closely resemble the same sex of the species spoken of above in general plumage, and in having their tails of the same pattern of coloration. In many allied forms among the *Trochilidæ*, the females resemble each other so much that a satisfactory determination of them is quite difficult, except with authentic examples of the different species to compare with. — GEO. N. LAWRENCE, *New York City*.

OCCURRENCE OF THE BLACK VULTURE OR CARRION CROW IN OHIO. — On or about December 20, 1876, I came upon three individuals of this species (*Cathartes atratus*, Less.), feeding on the carcass of a hog, in a wooded ravine near Madisonville; one of them I shot at and wounded, but lost sight of it in the woods, and the other two remained in the immediate vicinity long enough to give me an excellent opportunity to observe their peculiarities of form and flight, although I could not approach within gunshot of them. On January 1, 1877, however, I found a specimen that had been killed a few days previous, in the same locality, by Mr. Edwin Leonard, of Madisonville, under circumstances rendering it probable that it was the one I had wounded; its skin is now in my collection.

The occurrence of this bird in Ohio, or in fact anywhere in the Mississippi Valley *north* of the Ohio River, has heretofore rested solely on Audubon's account of its range, which has been quoted by all subsequent writers; and, being essentially a southern species, its capture here, at a time when the Ohio River was frozen over and the ground covered with several inches of snow, seems worthy of remark. I have identified this species here satisfactorily to myself, on two previous occasions, *both in winter*, but have never seen the "Turkey Buzzard" (*C. aura*) at that season, although it is quite common during the summer. — FRANK W. LANGDON.

OCCURRENCE OF THE WESTERN NONPAREIL AND BERLANDIER'S WREN AT FORT BROWN, TEXAS. — Dr. J. C. Merrill, U. S. A., in a recent letter to the writer, says: "I have recently (April 23 and 24, 1877) taken two fine males of *Cyanospiza versicolor*, a bird new to our Fauna, although included in Baird, Brewer, and Ridgway's 'History of North American Birds.' I have also heard and seen several others. They frequent mesquite chaparral, and betray themselves by their notes, which somewhat resemble those of *C. cyanea*. Berlandier's Wren (*Thryothorus ludovicianus* var. *berlandieri*), also new, but included in Baird, Brewer, and Ridgway's work, I find to be a rather common visitant." Dr. Merrill also states that

he had just found a beautiful nest of *Spermophila moreleti*, which proves to be a rather abundant species. — J. A. Allen, *Cambridge, Mass.*

A Cuckoo's Egg in a Cedar-Bird's Nest. — On July 19, 1874, while collecting in a piece of swampy second growth about four miles from Utica, N. Y., I discovered a nest in a small sapling about eight feet from the ground, which, on examination, I found to contain four eggs of the Cedar-Bird (*Ampelis cedrorum*), and one egg of the Cuckoo. From the damp situation, from the appearance of the egg itself, and from the fact of my having found the nest of that bird in the same piece of wood the previous year (1873), I am led to believe it was that of the Black-billed species (*Coccyzus erythrophthalmus*). The nest was deserted and apparently had been for some time, as all the eggs were addled, nor could I see that incubation had begun ; certainly it had not in the Cuckoo's egg. I can find no mention in print, nor have I ever before heard, of such a case. — Egbert Bagg, Jr., *Utica, N. Y.*

[The laying of our American Cuckoos in the nests of other birds is doubtless not so rare an occurrence as has been supposed. Two instances have been observed recently in this immediate vicinity, and I have heard of others. Mr. A. M. Frazar, of Watertown, Mass., informs me of one instance where the Yellow-billed Cuckoo (*Coccyzus americanus*) deposited an egg in a Robin's nest, and another case of the laying of the same species in the nest of a Wood Thrush. In the March number of the "Oölogist" (Vol. III, p. 3, published at Utica, N. Y.) an anonymous writer records (since Mr. Bagg's note was received for publication) the finding of *two* eggs of the "Cuckoo" (species not given) in the nest of a "Redbird" at Gambier, Ohio. —J. A. Allen.]

Occurrence for the first Time in England of the Robin (*Turdus migratorius*). — Mr. J. E. Harting records the first occurrence in England of this species in an article in "The Field" (published in London, Eng.), of December 23, 1876, and also in the "Zoölogist" for January, of which paper he is editor. The bird was taken alive, owing to its exhausted state, when reaching land at Dover, during April or May.

Mr. Harting is a well-known authority on stragglers, having published in 1872 a Handbook of British Birds, in which was recorded 212 specimens of American birds, belonging to 42 different species. Since that time some of these have been discredited, and others added, until at the present time the list embraces 220 instances of the occasional appearance in Great Britain of North American birds. Of the species referred to in this list, there are five birds of prey, fourteen *Passeres* and *Picariæ*, one *Columba*, fourteen *Grallatores*, and eight *Natatores*. The prevailing winds of the Atlantic being westerly probably accounts for the greater abundance of American stragglers in Europe than the contrary.—H. B. Bailey, *Orange, N. J.*

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BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB:

A Quarterly Journal of Ornithology.

Vol. II. — **JANUARY, 1877.** — No. 1.

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Cambridge, Mass.:

PUBLISHED BY THE CLUB.

University Press, Cambridge: Printed by Welch, Bigelow, & Co

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB:

A Quarterly Journal of Ornithology.

Vol. II. — **APRIL, 1877.** — No. 2.

CONTENTS.

Cambridge, Mass.:

PUBLISHED BY THE CLUB.

University Press, Cambridge: Printed by Welch, Bigelow, & Co.

BULLETIN

OF THE

Nuttall Ornithological Club:

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ADVERTISING RATES.—First insertion, 30 cents a line (Bourgeois), or $12.00 per page; $6.50 per half-page. A discount of twenty-five per cent will be made for each subsequent insertion.

Communications intended for publication, as well as advertisements, should be sent to MR. J. A. ALLEN, Museum of Comparative Zoölogy, Cambridge, Mass.

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB:

A Quarterly Journal of Ornithology.

Vol. II. — **JULY, 1877.** — No. 3.

CONTENTS.

Cambridge, Mass.:

PUBLISHED BY THE CLUB.

University Press, Cambridge: Printed by Welch, Bigelow, & Co.

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB:

A Quarterly Journal of Ornithology.

Vol. II. — **OCTOBER, 1877.** — No. 4.

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Cambridge, Mass.:

PUBLISHED BY THE CLUB.

University Press, Cambridge: Printed by Welch, Bigelow, & Co.