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HELMINTHOPHAGA LEUGOBRONCHIALIS, BREWSTER
ADULT MALE.

.. plate 1

BULLETIN

OF THE

NUTTALL ORNITHOLOGICAL CLUB:

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VOLUME I.

Editor,

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[Photographic reprint.]

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 *Dendroica 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 Lawrenceii*, Herrick. Proc. Acad. Natural Science, Phila., 1874, pl. 15, p. 220.

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 Audubon 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 (*HELMINTHOPIAGA 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 arrived at 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 (*DENDRÆCA 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 mustelinus*), 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 *Dendroica caerulescens*.

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 *Virzo 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 *Traillii* 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 (*Dendroica aestiva*), 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 *yellow* 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 most 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:

Juncos Oregonus, (Townsend), Scl. 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 renewal 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 confident 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 habitually 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 alarm 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 *Tringa*. 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. granineus*, *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. phæniceus*, *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 *Sylvi-colidæ*, *Tyrannidæ*, and *Scolopacidæ*, 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.

Dendroica 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.

Agelaius phoeniceus, 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 haliaetus, 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.

Agialitis 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.

Hematopus 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.

Rathus 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 are 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 supercilialis, 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.

Rhyuchops 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-

(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 *Speotyto cunicularia* var. *hypogaea* 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

* 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, $1\frac{9}{12}$, its claw, $1\frac{1}{12}$.” ‡

From the preceding analysis of the “*Fulco 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:—

* 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 intermediate 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*; tibiae 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 duskiess 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 unsuspecting, *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. ***Ædemia 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. *Myiodiactes 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. *Nyctherodius 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 cyanocephala*), 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 ortonii*) 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

* 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 (*Laridae*), eleven species of the Petrel family (*Procellariidae*), and four species of Penguins (*Spheniscidae*), 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* = *Haliæus (Hypotûcus) 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 *Odontolæ*) of the subclass *Odontornithes* (*Aves dentate*) 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 *Troglodytidae*, 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.

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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 (*Agelaius phoeniceus*), the Purple Grackle (*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 *Picidae*, 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 thousand 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 neverthesse, 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 americana*) 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 powder, with turnips to supply the place of powdered 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 skinned 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 $41^{\circ} 40'$. 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 oily, 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 powder and shot, I have spent in a year, and I have fed my dogs with as fat Geese there, as I have ever fed upon myself in England.

"Ducks, there are of three kinds, pidgeons, gray Ducks, and black Ducks in great abundance: the most about my habitation were black Ducks: and it was a noted Custom at my house, to have every mans Duck upon a trencher, and then you will think a man was not hardly used. . . . Teales, there are of two sorts green winged, and blew winged. . . . I had plenty in the rivers and ponds about my house. Widgeons there are, and abundance of other water fowl. . . . Sanderlings are a dainty bird, more full bodied than a Snipe, and I was much delighted to feed on them, because they were fat, and easie to come by, because I went but a step or two for them: and I have killed between four and five dozen at a shoot which would load me home."* Josselyn says of "Sanderlings," he has known "twelve score and above kill'd at two shots." The contrast in respect to the abundance of water-fowl 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

Tyrannide, 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 *Hylotermus 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 synonymic 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. hircundo*). 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*, *Egialitis 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: *Cistothorus stellaris*, *Vireo gilvus*, *V. flavifrons*, *V. noveboracensis*, *Spizella pusilla*, *Zenaidura 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: *Helminthus vermivorus*, *Helminthophaga pinus*, *Icteria virens*, *Myiodioetes mitra-tus*, 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*, *Geothlypis 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 eupido*, *Meleagris gallopavo*, *Himantopus nigricollis*, *Ibis ordii*, *Herodias egretta*, *Florida cerulea*, *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 *Maerorhamphus 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, *Myiodioetes 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) $.99 \times .65$; (2) $.97 \times .67$; (3) $.88 \times .67$; (4) $.90 \times .68$; (5) $.85 \times .64$; (6) $.76 \times .63$. Ten specimens of *M. pecoris* var. *obscurus*, from Arizona, measure as follows: (1) $.82 \times .60$; (2) $.81 \times .59$; (3) $.73 \times .65$; (4) $.75 \times .61$; (5) $.74 \times .58$; (6) $.73 \times .58$; (7) $.72 \times .58$; (8) $.70 \times .58$; (9) $.70 \times .56$; (10) $.67 \times .51$." This gives an average of $.90 \times .66$ for the New England specimens, and $.74 \times .59$ 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.

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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. Herriek 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 *DENDRÆCA 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 *Dendroica 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.

Dendroeca 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. *Dendroeca 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*.

Dendrocæa palmarum, AUCT., in part.

Dendrocæa 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
32290	"	♂	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	"	"	"	"	2.60	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	2.25	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." naively 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 cathedra*.

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 *Zenaidura 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 *Aegiothus 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 (*Dendroica 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.

OCURRENCE 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 *puddock* 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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