

other hand, from just within the desert—the exact locality where the hybrids were found—might have come from Utah or Arizona so far as comparison shows to the contrary. They are in every respect typical of the species and reveal no tendency to an approach towards *californicus* as a result of their proximity to the habitat of that bird. The specimens in question can, therefore, be nothing else than pure hybrids.

To what extent hybridization between the two species occurs at this point is at present not known, but Mr. Herron promises to pay attention to the matter and ascertain, if possible, the relative proportion the hybrids bear to the unmixed birds. It will be found, probably, that the hybrids are comparatively rare, as of a considerable number of Gambel's Quails already shot at the same locality, Mr. Herron recalls nothing peculiar. Probably it will be found that actual mating between the two species does not take place, but that the hybrids are the result of unusual meetings between the opposite sexes of the two species, which are more in the nature of accidents than anything else.

A STUDY OF THE SINGING OF OUR BIRDS.

BY EUGENE P. BICKNELL.

[*Concluded from p. 154.*]

Agelæus phœniceus. RED-SHOULDERED BLACKBIRD.

IN mild winters squads of Red-winged Blackbirds sometimes wander northward ahead of time. These find the swamps unprepared for them, and keep silence save for the dull *chuck* which it is customary for Blackbirds to use on all occasions. But song always accompanies the general migratory movement however early it may be entered upon, and I have known their spring concert to begin as early as February 22. No matter how backward the season, they will not brook more than a reasonable delay, and after the middle of March will come and settle and start singing even when the swamps are still ice-bound and they themselves are the only sign of spring.

March and April, and less truly May, are here their chief song-months. Later they resign the gallantry of courtship and, perhaps viewing the practical situation to which it has brought them, lose their readiness of voice, many, in fact, being reduced to complete silence. This state of things begins to be noticeable after the middle of May, and gradually becomes more apparent, although singing never wholly fails before July. By the middle of that month, even though the birds continue abundant, usually but few remain in voice. Dates of final songs bear record between July 17 and 28, and August 3.

After this time the movements of the species are rather perplexing. About the end of July almost all the adult males disappear, while the females and young remain abundant — even appear to increase in numbers — and multitudes often congregate at late afternoon in the mowed meadows. In September these have departed and the species is usually uncommon; indeed, in some years it appears to be altogether absent in this month. In October it becomes common again and singing is transiently renewed. But so fleeting is the period of autumn song that it may readily escape notice, and doubtless for this reason it is chronicled on my records only for two seasons. In 1878 it lasted from October 14 to 17, when song from a number of birds was full and perfect; in 1880 several songs of varying perfection were heard on October 17, but on no other day.

***Sturnella magna.* MEADOW LARK.**

Though the Meadow Lark gives us many months of its music, its song finds chief place in memory among the bird voices of earliest spring. Then flocks assemble in tall trees overlooking their favorite meadows, where the medley of their mingled songs is an agreeable change from the winter silence of the sere grass lands.

Often they are preceded in song only by the Bluebird and the Song Sparrow. I have known them to be singing by February 8 (1880); but they do not often anticipate early March, and when it happens that they are not present at the breaking up of winter of course their song is not to be heard until they put in an appearance, which may not be till early April.

I have no record of their singing later in the summer than the third week of August, and often they cease earlier.

In the autumn, however, they have their voices again. In 1880, flocks in full song were noted from October 10 to November 7, and all my data of other years is comprehended by these dates.

Icterus spurius. ORCHARD ORIOLE.

We are never long left unaware of the advent among us of this active bird, for its rapid rollicking song bears a signal part in the repletion of bird voices which fill the morning hours in the early days of May. True to its tropical traditions it fairly revels in the hottest weather, and it may be heard singing with unabated hilarity all through those excessively hot days that often come suddenly upon us at the end of May or early in June.

The immature male, in the yellowish, black-throated plumage, sings as enthusiastically as his more richly attired compeers, and is often noisy with the earliest arrivals.

Singing begins to decline in July, and my record usually closes shortly after the middle of the month, sometimes barely reaching that point. But, again, songs may be scattered sparingly along till August, and I have one record of imperfect song-notes from an adult male on August 11. My record of latest songs is as follows: 1874, July 28; 1876, July 30; 1878, July 11, 17, 19, and imperfect song-notes August 11; 1880, July 11 and 18; 1881, before the 17th; 1882, July 25; 1883, July 18. Records of the singing of immaturely plumaged birds run to July 10.

Icterus galbula. BALTIMORE ORIOLE.

It would almost seem as if the Baltimore Oriole timed its advent by the blossoming of the fruit trees. At all events, the blossoms and the Orioles usually come together. And when the cherry and apples trees wear their full spring array the bright birds are in high spirits, gaily flashing from one tree to another, and sounding forth their golden-toned trumpets from the fragrant clouds of white bloom, amid which they spend many an hour while the blossoms remain. And when it may, much of its time is also

passed with a splendid foreign cousin of these trees, the Japan quince,—that brilliant flowering shrub that flames about lawns and gardens in early May, and that finds a rival brightness when the Fire-bird busies itself among its scarlet blossoms.

On their arrival these Orioles are particularly vivacious and noisy, and though their spirits appear soon to subside they continue in full note. But through most of July they are feeble-voiced and often silent. There is, however, no strict silent-period, for in some summers they are less quiet than in others, and even when most reticent they seem unable to restrain occasional imperfect song-notes. But the lapse of song in mid-summer undoubtedly points to an illy-defined silent-period, for full song is resumed in August. In the latter month, chiefly in its third quarter, their notes are frequent in the early morning and become as full-toned as in spring, at times seeming to be more extended, even as the bird's plumage is brighter. Still, at this season a few simple notes is a more usual expression than the full song. The latter I hear last in August, from the 5th to 27th. The simpler notes have always closed my record of the presence of the bird—August 19 to September 6.

Mr. William Brewster gives me the following notes on the Baltimore Oriole as observed at Cambridge, Mass. :—

“Through late July and early August they are silent and retiring, but with the first cool mornings, generally about August 20, the male begins singing again and flashes in and out among the leaves with all the vivacity of June. His plumage now is even brighter than in spring. At this season he sings only in the early morning.”

***Scolecophagus ferrugineus.* RUSTY BLACKBIRD.**

Sings in the spring during its stay, which is longer than that of any other migratory bird—sometimes from early March till mid-May—and in the autumn from its arrival in September until the great body of the species has passed south. Latest songs are in October, from the 20th to 30th. “Imperfect song-notes November 5,” is down in my record.

In the mild winter of 1879-80, these Blackbirds were observed at different times, and their song-notes heard January 18 and February 29.

THE CROW BLACKBIRDS.

The Grackles are unaccountably erratic in their visitation to my neighborhood, and my notes on their vocalization are meagre and unsatisfactory.

It may be said, however, speaking of the Crow Blackbirds broadly, without distinction between the Purple and the Bronzed varieties, that they are to be numbered with the birds which have their voice in the autumn. I have heard their squeaky song-notes in October, as late as the 23d.

Corvus frugivorus. CROW.**Cyanocitta cristata.** BLUE JAY.

With these birds there appears to be little relation between the use of the voice and the seasons.

The Blue Jay seems disposed towards quiet in the breeding season, particularly in the vicinity of its nest, and is most noisy during its migrations in autumn.

The cawing of Crows belongs to all seasons.*

Tyrannus carolinensis. KINGBIRD.

From the time of its arrival on through the season of family cares this bird's notes are louder and more frequent than later in its stay. But the Kingbird does not easily hold its peace under annoyance, and its harsh twitter constantly breaks forth in those dissensions which are ever rising between the irritable birds when they are flocking in the late summer preliminary to departure.

But at this season their notes are usually much abbreviated, for their voices are declining; and when the great body of the little combatants have fought their last fight and departed, which is about the end of August, it is the exception if the loiterers that continue to be met with are not mute.

* I regularly hear the strange croak of the Fish Crow (*Corvus maritimus*) from early spring until summer. The boundary dates of my record are February 22 and August 15; but I do not often hear the bird after May. Whether it is absent through the late summer, autumn, and winter, or is present but silent during this time, lies beyond my observation.

Myiarchus crinitus. GREAT-CRESTED FLYCATCHER.

In July the voice of this bird begins to fail, and a silent-period is nearly approached, if, indeed, it be not actually reached, in trying summers.

During this time of semi-silence the usual utterance is a single note, which is often faint, and with a mournful intonation as it sounds at slow intervals among the high trees of the woods.

Towards the end of August there is noticeable on the part of the birds an attempt to regain their earlier vocal prowess, but they soon return to the low note which they learned in July. This is their farewell, and is in strange contrast to the harsh outcry with which they came upon the scene.

Sayornis phœbe.* PHŒBE-BIRD.

The well-known Phœbe comes to us in the spring the first of the Flycatchers; the first, in fact, of our strictly summer birds—those that never show themselves in winter—and for this reason, as well as because it actually comes to us and need not be sought, it always meets with a special welcome among the evidences of the advancing season in March. According to custom, on the first morning of its arrival its song comes in through the windows from gable-peak or other familiar perch about the grounds, and not till then does spring seem really to have begun. But its song is one of those which appeals to the sympathies rather than to the ear, fully making up in sincerity what it lacks of music. Still, it must be reluctantly admitted that later, when more graceful and gifted songsters are with us, the plain Phœbe does appear a trifle unsophisticated, and its notes may grow monotonous. Nevertheless their jerky character seems to be held in high opinion by their author, and is admirably seconded by its tail.

Usually the Phœbe-bird must be waited for until after the middle of March; but it may put in an appearance any time between the first and last days of the month—March 5 to 30.

* Cf. Stejneger, Auk, Vol. II, No. I, p. 51.

As to its singing in the summer, there is much variability in different years. In some, little will be heard from it through the greater part of July, August, and September; and in prolonged heated terms it may be generally silent for weeks at a time in any part of this period. If the weather be agreeable it is much less taciturn.

With considerable regularity singing is resumed in the latter part of September, and usually lasts into the following month.

On bright autumn days, especially, the Phæbes seem animated by the same cheerful spirit in which they passed the spring, and in their ardor of song even dare again the high pitch of note where the voice seems about to crack at every ascent. Such songs are often among the last.

My record tells of farewell songs from September 28 to October 17. These really announce the general departure of the species—the latest with us, as it was the earliest of the Flycatchers—and though single birds seem to be loath to leave and often linger late about the thinning orchards and leafless shrubbery along the borders of ponds and streams, their only note is a simple *chip*.

Contopus virens. WOOD PEWEE.

When it first comes the Wood Pewee seems to be a little shy of using its voice. Perhaps, with its solitary disposition, it is not at ease amid the confusion and medley of the migrations. At all events it puts off its coming till much of this is over with; and in the summer it is most voiceful in the early morning and in the evening when it can have the woods all to itself. Often it may be heard repeating its plaintive, inquiring call when the woods are quite dark, either before the sun has risen or after it has set.

In late July or early August its voice shows evidences of decline, and gradually the species goes out of song. In some seasons singing may continue with tolerable constancy through most of August, but it is never general in September, although occasional songs are to be heard up to the time of the bird's departure. The latest songs are often stronger than those of several weeks previous. Dates of last songs for ten years are from August 28 and September 2 to September 19 and 24.

When singing is at its weakest, the song may be reduced to a single low note, suggestive of a low note of the Yellow-bellied Flycatcher.

Empidonax flaviventris. YELLOW-BELLIED FLYCATCHER.

I have heard the song-notes of this spring and fall migrant in the last days of May, and once in mid-August (August 14, 1880); but on the fall migration it is usually silent.

Empidonax acadicus. SMALL GREEN-CRESTED FLYCATCHER.

Continues in full note through June and into July. With me its notes cease in the latter month, between the 5th and 20th, but where the species is more abundant doubtless it may be heard later.

Since this went to the printer I learn from Dr. A. K. Fisher that at Sing Sing, N. Y., where the bird is common, its notes continue nearly to the end of August, and probably even later.

Empidonax trailli. TRAILL'S FLYCATCHER.

I hear this species only while it is passing north on its migration, when it sometimes carries into June.

Empidonax minimus. LEAST FLYCATCHER.

Silence comes earlier to this species than to almost any other of our summer birds; but where I have found this to be true is near the southern limit of the bird's summer range, and it is not unlikely that it has somewhat different habits of song further within the area of its distribution.

In some years I have missed its note after the last days of June, and my latest date, July 20, is isolated in my record, the nearest approaches to it being July 12 and 14.

Trochilus colubris. RUBY-THROATED HUMMINGBIRD.

The only sound I ever heard from this bird was an excited chipping. My books show no record of this after the breeding season.

Chætura pelagica. CHIMNEY SWIFT.

The rapidly accelerated chatter which the Swift runs off so airily while on the wing, accompanies its flight through most of the summer—in fact as long as the birds remain common. This may be from early August till well on towards the end of the month.

Late in the stay of the species I have sometimes heard their full notes while watching small companies of the birds tarrying at dusk over low grounds and meadows to join the Swallows insect-hunting.

In the summer the Chimney Swifts are disposed to be liveliest late in the day, and the warm evenings are enlivened by their nervously rapid twittering as in wisps of two or three or more they race with astonishing velocity through the air.

But they are quickly affected by a fall of temperature, and in suddenly cool evenings, chiefly in late summer, are to be seen flying silently about in marked contrast with their usual noisy demeanor.

Caprimulgus vociferus. WHIP-POOR-WILL.

I have never heard the notes of the Whip-poor-will after the middle of the year, though it is well known to sing in the autumn. At Sing Sing, Dr. Fisher has heard it up to September 19; and it has been heard by different members of my family at the following times and places: Canaseraga, N. Y., July 24, 1871; Scarsdale, N. Y., August 31, 1880; Bay Ridge, L. I., August 10, 1881.

Chordeiles virginianus. NIGHT-JAR.

The sharp cry of this bird is to be heard in spring, summer, and autumn, and doubtless is independent of the seasons. I have no personal knowledge as to the seasonal limitations of its well-known 'booming,' and aerial evolutions.

Picus pubescens. DOWNY WOODPECKER.

In addition to its usual short, sharp note, the Downy Woodpecker has a rattling cry, which starts and ends with an abrupt

precision suggestive of a mechanical contrivance set off with a spring. This it uses in lieu of song. It is set off for the first time in the new year in March, usually about the middle, but sometimes earlier, and again not until the end of the month, or even early April.

It is in use through the summer and autumn, often becoming infrequent in October, and in November still more so, although in some years not ceasing altogether until the end of the month. On a few occasions I have heard it in winter.

The hammering of this little Woodpecker, which is often loud and resounding in great disproportion to the bird's size, is introduced into the woodland sounds about the time its song-notes begin. In early seasons I have heard it by the middle of February.

Sphyrapicus varius. YELLOW-BELLIED WOODPECKER.

The Yellow-bellied Woodpecker poses in a very different character as a traveller than as a settler in its summer home. By reference to Dr. Merriam's entertaining paper on this bird, in the 'Bulletin of the Nuttall Ornithological Club' for January, 1879, we learn of its habits on its arrival in Lewis County. There it is bold, familiar and preposterously noisy. In the region of which I write it is in general a reserved and quiet bird, and does not often indulge in hammering, even in the spring. Perhaps at the time it passes—April—it is not ready to begin courtship, and drumming, which, as with other Woodpeckers, in a measure takes the place of song, is deferred until the birds are ready to seek their mates.

But though the species in general is undemonstrative with us, there may be an occasional noisy individual. I can cite a good instance under date of April 8, 1880: On the morning of that day a high-plumaged male had chanced upon a wonderfully resonant hollow limb in an old chestnut tree in open woods. No true Woodpecker could miss turning such an occasion to account, and the hard barkless shell was made to do good service. With great satisfaction the bird would deliver at short intervals a loud tattoo—a run of about eight determined raps in irregular succession. After each sally it would throw back its red-patched head with an

air of satisfied achievement and survey the woods, which seemed doubly silent after the loud reveille.

I have never known this Woodpecker to drum in the autumn. At that season it seems especially reserved. Many take up their habitation in orchards or on private grounds where there are old apple trees, and from their silence and the close manner in which they hug the limbs seem to haunt them with a constant suspicion, although they are not shy of approach. In these trees they keep up a feeble, restless picking, in their microscopic search of the bark for their hidden food. This is the only sound I have heard from them in the autumn, except an occasional low scream, which may rarely be uttered in the winter.

Melanerpes erythrocephalus. RED-HEADED WOODPECKER.

This fine bird is usually uncommon about New York, and long periods may elapse when it appears to be altogether absent. But it is liable to come in flocks any autumn, when many may stay and spend the winter.

The species was common from September, 1881, until the middle of the following May. Their usual note—a guttural rattle, similar to the cry of the tree-toad (*Hyla versicolor*)—was kept up all through the winter. In April their vocabulary was augmented by a hoarse, hollow-sounding cry. Then the birds in small companies still occupied the same woods where they had passed the winter, but were more noisy and active, and would sometimes set up a confused screaming all together. The tree-toad rattle I have also heard in August.

Colaptes auratus. GOLDEN-WINGED WOODPECKER.

The well-known High-hole has, for a Woodpecker, a very varied repertoire. Its long rolling call may be taken as especially representative of song, and is a characteristic sound of the empty woodland of early spring. It is usually given from some high perch, and has a free, far-reaching quality, that gives it the effect of a signal thrown out over the barren country, as if to arouse sleeping nature. This call continues irregularly through the summer, but then loses much of its prominence amid the multi-

tude of bird voices. It is not infrequent in September, but later than the middle of October I have not heard it.

Another vocal acquirement of the High-hole is a sound much like that caused by the whetting of a scythe. These notes I have recorded from April 8 to September 5; but there seems to be no seasonal regularity about their utterance. The species has also some singular, conversational-like tones, and other notes, which are usually uttered when the birds are in company, and are sometimes attended with a great show of bowing and obsequious conduct.

It is hardly necessary to allude to the familiar call-cry of the species, which may well have conferred the name Clape which the bird bears in certain sections.

In the breeding season the High-hole seems to be quieter than either before or after, perhaps from considerations of caution.

Ceryle alcyon. KINGFISHER.

When the Kingfisher is present in winter its loud rattle is given with as much vigor as at other seasons.

THE CUCKOOS.

Our Cuckoos have a variety of notes, some of which are certainly common to both species. I have never been fortunate enough to determine positively which were distinctive of either, and the notes of both are confused in my records.

Cuckoos continue in voice after their arrival until from the middle to the end of August. Later in the season their notes are faint and brief; latest records for such are September 4 and 14.

Scops asio. SCREECH OWL.

The Screech Owl shows a very perplexing irregularity through the year in the use of its strange quavering cry. This much is plain from my records, which, however, are not sufficiently full to give a clear reading of the larger facts. But that the bird is noisy or the reverse with some reference to the time of the year there can be no doubt. The late summer, far more than the

spring, seems to be the season when its cry is most frequent and most regular from year to year. Usually, after a considerable time of silence, it begins to quaver in July or in August, thence continuing off and on until winter. But there is no great regularity about this; simply my notes through a series of years cover all this period, and the bird is to be heard in one or more of the autumn months every year.

I am not without scattering records of having heard it in winter; but it is virtually a silent bird from December or earlier until March or later.

With some uniformity it is to be heard for a short time in late March or early April; but I have not a record for late April, May, and June.

Philohela minor. WOODCOCK.

Although the aerial manœuvres of the Woodcock at dusk and in the dark are, freely speaking, familiar to us all, in a stricter sense there is still a prevailing ignorance in regard to them.

My journal supplies the following, slightly adapted, under date of April 19, 1884: The birds would start up from amid the shrubbery with a tremulous whirring sound of the wings, rising with spiral course into the air. The spiral varied considerably in pitch, sometimes expanding to sweep far out over a neighboring field, when a single revolution would carry the bird upward almost to the extremity of its flight, which was sometimes directly over the point of departure. The rapid trilling sound with which it started off, as Woodcocks do, continued without interruption during the ascent, but gradually became more rapid, and as the bird neared its greatest height passed into pulsations of quavering sound. Each pulsation was shorter and faster than the last, and took the tremolo to a higher pitch, sounding like a throbbing whirl of fine machinery, or suggesting in movement the accelerating rhythmic sound of a railway-car gradually gaining full speed after a stop. At last, when it seemed as if greater rapidity of utterance was not possible, the vertex of the flight would be reached, and, descending with increasing swiftness, the bird would break forth into an irregular *chipping*—almost a warble—the notes sounding louder and more liquid as it neared the earth. Suddenly

there would be silence, and a small dark object would dart past through the dusk down amid the shrubbery. Then, at silent intervals, a single strange and rather startling note—a loud, sharp and somewhat nasal *speat* or *speat*—which sounded as if delivered with a spiteful directness at some offensive object.

I had no means of estimating the height of the bird's ascent, but in the evening dusk it went up almost out of sight.

This performance I have heard at midnight on the bird's arrival in spring. It is also said to take place in the early morning. Is it ever indulged in the autumn?

WINTER BIRDS OF PRINCE EDWARD ISLAND.

BY FRANCIS BAIN.

PRINCE Edward Island, situated in the southern basin of the Gulf of St. Lawrence, possesses in some respects a climate peculiarly its own. Sheltered from the chilling breath of the Labrador Current by the elevated primary ridges of Nova Scotia and Cape Breton, it enjoys a summer season with a more elevated temperature, a purer atmosphere, a clearer sky, and more abounding sunshine on its rich, verdure-clad swells, than are to be found on the immediate Atlantic seaboard.

In winter, on the contrary, the shallow waters of the Gulf are soon covered with ice, sometimes extending unbroken as far as the Magdalens, and the temperature of the season is uniformly severe. Snow lies deep on the ground, and the rivers and bays for four months are firmly locked in ice. The atmosphere, however, is pure and bracing, and free from the damp chilling mists of the ocean seaboard.

These conditions have an influence on our winter avifauna. Water birds which frequent bays and mouths of rivers are completely driven away. Only a few deep-sea fowl stay to glean a hardy living where the blue waves break among the parting floes. The depth of snow is unfavorable to members of the Finch tribe which, like the Tree Sparrow, seek their living from seeds on the ground. But the splendid deciduous forests which flourish