

Memoirs of the Nuttall Ornithological Club.

No. IV.

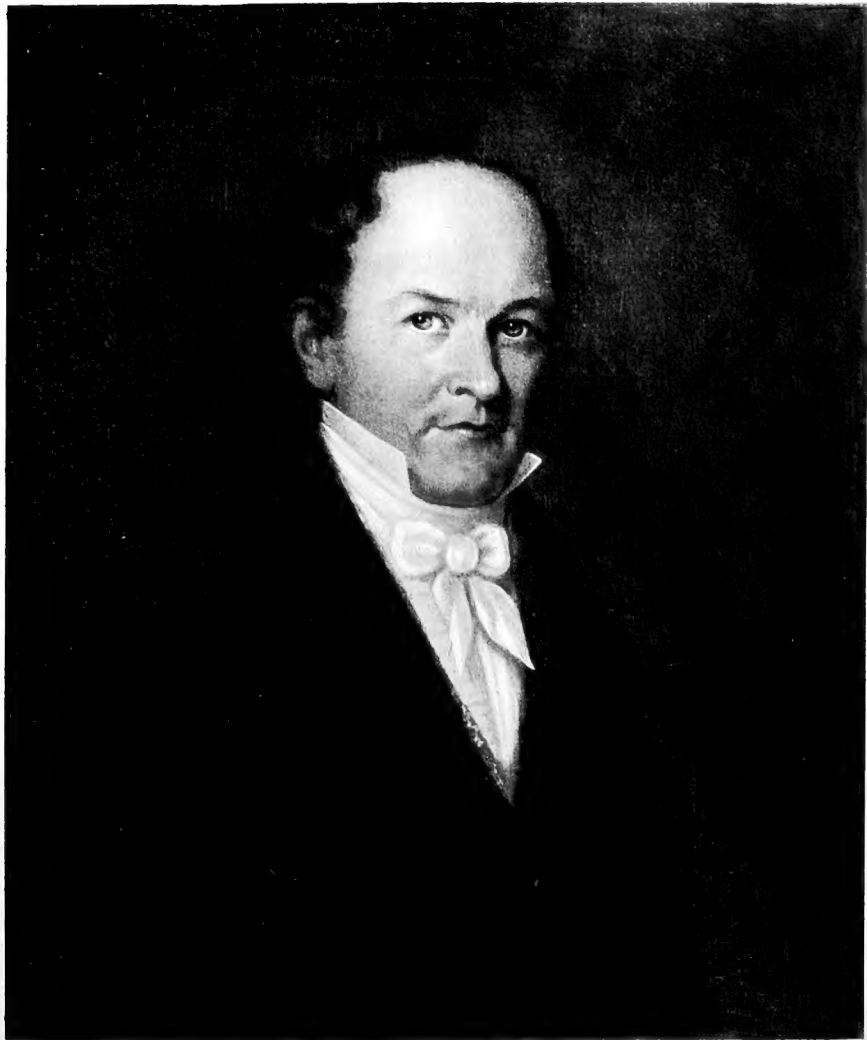
THE BIRDS
OF THE
CAMBRIDGE REGION
OF
MASSACHUSETTS.

By WILLIAM BREWSTER.

WITH FOUR PLATES AND THREE MAPS.

CAMBRIDGE, MASS.
PUBLISHED BY THE CLUB,
JULY, 1906.





A. W. Benson & Co. Boston

Mr Nuttall

QL
684
M4 B8X
1906
Birds

Memoirs of the Nuttall Ornithological Club.

No. IV.

THE BIRDS /
OF THE /
CAMBRIDGE / REGION
OF /
MASSACHUSETTS. //

By WILLIAM BREWSTER. //

• • •

WITH FOUR PLATES AND THREE MAPS.

CAMBRIDGE, MASS.
PUBLISHED BY THE CLUB,
JULY, 1906,



PREFACE.

THE present Memoir was undertaken upwards of ten years ago at the request of the Nuttall Ornithological Club. For reasons which need not be mentioned here, its progress has been vexatiously slow, and — what is still more unfortunate — its completion at the present time has been made possible only by the sacrifice of certain historical features contemplated in its original plan. Nevertheless, it is hoped that the paper will prove of use to the members of the Club, as well as to other persons especially interested in the ornithology of the Cambridge Region. No attempt has been made to give full life histories of the birds. On the contrary, I have abstained from saying anything about their habits, songs, etc., save in cases where some mention of these and kindred matters has seemed essential to a clearer understanding of the reasons governing the local occurrence or distribution of certain of the species, or desirable for the purpose of rendering commonplace or otherwise tedious details more attractive. What I have had chiefly in mind has been to state as definitely as possible the times and seasons when each species has been noted, the numbers in which it has occurred, at long past as well as in very recent times, and the precise character and, in some instances also, situation of its favorite local haunts. In addition to my own record books, covering upwards of forty years of more or less continuous observation, those of the Nuttall Ornithological Club, which extend as far back as 1873, have been freely consulted. Several of the members of the Club, as well as a few of my other ornithological friends, have also placed their personal field notes quite at my disposal. Among those to whom I am indebted for assistance of this and other kinds may be mentioned Mr. G. M. Allen, Mr. Outram Bangs, Mr. C. F. Batchelder, Mr. Harold Bowditch, Dr. A. P. Chadbourne, Mr. Walter Deane, Mr. Richard S. Eustis, Mr. Walter Faxon, Mr. William P. Hadley, Mr. John H. Hardy, Jr., Mr. Henry W. Henshaw, Mr. Ralph Hoffmann, Mr. W. A. Jeffries, Mr. F. H. Kennard, Mr. Charles R. Lamb, Mr. Oliver Ames Lóthrop, Mr. C. J. Maynard, Mr. F. B. McKechnie, Miss Bertha T. Parker, Mr. H. M. Spelman, Dr. C. W. Townsend, Mr. Howard M. Turner, Dr. Walter Woodman, and others whose names appear in the following pages.

I am under especial obligations to Mr. C. F. Batchelder, who has given very much time and thought to the revision of the manuscript and proof, and to Mr. Walter Faxon and Mr. Samuel Henshaw, who have aided me most generously with suggestions and advice.

To Mr. Walter Deane my indebtedness is greater than I can well express. From the first his interest in every detail of the work has been sincere and unflagging, and his assistance and advice have been simply invaluable. The dates of arrival, departure, etc., which appear in the preliminary paragraphs, immediately under the headings of most of the species, have been compiled and arranged almost wholly by him. Their use is as follows:—

Summer residents. The average dates of arrival and departure are inserted between the earliest spring and the latest autumn records. In the case of birds which occasionally spend the winter (as the Catbird) the word 'winter' is added after the average dates, and early and late dates are given only when there is no doubt that they relate to individual birds which had just arrived from the South or were about to return to it.

Transient visitors. The average spring dates of arrival and departure are inserted between the earliest and the latest spring records. The same plan is used with the autumn dates. In the case of birds which occasionally pass the summer (as the Solitary Vireo) the word 'summer' is added after the average spring dates. In the same way, if a bird occasionally passes the winter (as the Rusty Blackbird), the word 'winter' is added after the average autumn dates. In all these cases early and late spring and autumn dates are used only when they certainly relate to migrating birds.

Winter residents. The average dates of arrival and departure are inserted between the earliest autumn and the latest spring records. In the case of birds which occasionally pass the summer (as the Brown Creeper) the word 'summer' is added after the average spring dates. In such cases late spring and early autumn dates are used only when they certainly relate to migrating birds.

In some cases no records of dates much earlier or later than the average dates are available. Average dates are occasionally omitted when there are not enough records to warrant stating them. Additional dates are sometimes inserted when they are of especial interest. In a few instances the lack of a really early or a late date is supplied by one from a locality outside, but at no great distance from, the limits prescribed in this Memoir; in such cases, however, the localities to which the dates relate are invariably mentioned. All dates are omitted in the brief preliminary paragraphs relating to species permanently resident or of but infrequent or irregular occurrence.

The 'nesting dates' immediately under the dates of 'arrival, departure,' etc., are intended to cover the period during which *full sets* of fresh eggs of the *first*

laying may be looked for in the Cambridge Region. These dates do not include, in all cases, the very earliest dates at which eggs have been found, nor has any attention been given to dates which may be assumed to relate to sets *not of the first laying*. In compiling the nesting dates I have frequently consulted notes relating to extralimital localities, but little or no consideration has been given to records which concern localities lying to the southward of Cambridge or distant from it more than twenty or thirty miles in any other direction.

In the use of scientific names I have followed rigidly those adopted by the American Ornithologists' Union's Committee on Nomenclature, up to and including the Thirteenth Supplement to the A. O. U. Check-List, which was published in the Auk for July, 1904. In one case, however, that of the Arctic Horned Owl, I have used a name not yet passed upon by the Committee. While I do not think that a faunal paper, such as the present one, is an appropriate place for discussions of technical points of nomenclature, yet in the single instance above noted the circumstances seem to warrant the remarks which I have made on this intricate and peculiar case. All the A. O. U. English names also are used, and to them I have frequently added names in current local use (past or present) in or about Cambridge.

I have included in their appropriate systematic order (1) birds which are known to have inhabited or visited the Cambridge Region in former times, but which no longer do so; (2) birds which have repeatedly occurred very near but not actually within its boundaries; (3) birds which have been introduced by the direct agency of man; (4) birds which have been reported only on what appears to be insufficient or inconclusive evidence. In all these cases the fact that the particular species or subspecies is not considered entitled to a present place in the natural fauna of the Region, is made sufficiently clear by omitting the usual number before the name, as well as by enclosing the name and the accompanying text in brackets.

My early training and experience have led me to believe that — with certain exceptions about to be specified — the occurrence of birds in localities or regions lying outside their known habitats should not be regarded as definitely established until actual specimens have been taken and afterwards determined by competent authorities. No doubt it is becoming more and more difficult to live up to this rule because of the ever increasing and, in the main, wholesome, popular feeling against the killing of birds for whatever purpose. Nevertheless I cannot admit that mere observation of living birds met with in localities where they do not properly belong, or where they have not been ascertained to occasionally appear, should often be considered as establishing anything more than possible or probable instances of occurrence — according to the weight and character of the evidence.

Exceptions to the rule may and indeed *should* be made in the cases of species which, like the Turkey Vulture, the Swallow-tailed Kite, and the Cardinal, are easily recognized at a distance and which are reported by persons known to have had previous familiarity with the birds in life. Sight identifications of species somewhat less distinctly characterized than those just mentioned, if made under favorable conditions by observers of long field experience and tried reliability, may also sometimes be accepted with entire confidence. But on no authority, however good, should a mere field observation of any bird that is really difficult to identify, be taken as establishing an important primal record.

These principles, which, in my opinion, should govern the *makers* as well as compilers of all local records, were formerly endorsed, and also followed in the main, by most ornithologists. Of late they have been frequently disregarded, especially by the younger generations of bird lovers and students. I have endeavored to apply them consistently and firmly — yet at the same time tolerantly — in dealing with the records considered in the present paper. If some of my rulings appear arbitrary, it must be remembered that it is not always possible to explain the reasons which cause one to look askance at the testimony of certain observers while accepting that of others with entire confidence. It goes without saying that personal considerations — whether of friendship or the reverse — should never be allowed to influence the judgment of any writer on scientific subjects, but his personal knowledge of men and their methods not only does but *should* exert such influence. Moreover there is often internal evidence in printed testimony — perhaps no more tangible than that to be gained by what is called ‘reading between the lines’ — that leads one irresistibly, and, as a rule, quite safely, to adopt conclusions which cannot always be logically justified or consistently explained.

INTRODUCTION.

THE birds of the Cambridge Region have been studied longer and more continuously, as well as perhaps more carefully, than those of any other locality of similar extent in all America. As far back as 1832 they were intimately known to Nuttall, and during the following eight or ten years they became equally so to Samuel Cabot and his brother, J. Elliot Cabot. Henry Bryant is also said to have been rather deeply interested in them about this time and to have collected them in considerable numbers.¹ Between 1842 and 1860 they received more or less attention from James Russell Lowell, Thomas M. Brewer, Wilson Flagg, and various successive members of the Harvard Natural History Society, while from 1861 or 1862 to the present day they have been constantly under the observation of an ever increasing number of ornithologists. Thus we have knowledge of them extending back over a practically unbroken period of more than seventy years. This, although by no means complete at all points, is sufficient to enable us to trace some of the more important and interesting changes in the local distribution and abundance of many of the species — especially the larger ones — which have taken place during the period just indicated. Some of these changes have evidently resulted from the increase of human population and the various modifications in the physical character of the region wrought by the hand of man; others have apparently been due to the introduction and subsequent increase of the pernicious House Sparrows; still others have been brought about by influences not as yet fully understood. The published notes and records, although by no means unimportant, are comparatively meager and rather widely scattered, for no book or paper dealing exclusively as well as extensively with the avifauna of the region has hitherto appeared. The manuscript matter, however, is exceptionally rich and valuable,

¹ Henry Bryant was a classmate of J. Elliot Cabot's at Harvard College and was graduated with him in 1840. Cabot, in his autobiography (J. Elliot Cabot [Autobiographical sketch], 1904) refers to Bryant in terms which indicate that the latter, during his college days, devoted much of his time to collecting birds in the immediate neighborhood of Cambridge.

for the field to which it relates has been exhaustively studied, especially during the past twenty-five years, by many good observers.

The nearest approach to a list of the birds found about Cambridge is afforded, I believe, by the annotations which I furnished for Mr. Chapman's 'Handbook of Birds of Eastern North America.'¹ The region to which these notes relate was not defined by Mr. Chapman, nor can I now remember its precise boundaries; but it certainly included the seacoast in the neighborhood of Revere Beach and also, I think, localities as far inland as Wellesley and Weston, with Newton and perhaps one or two other towns lying on the south side of Charles River. Hence it covered an area considerably more extensive than that of the Cambridge Region treated in the present paper. I also take this opportunity to say that the migration dates given, on my authority, by Mr. Chapman, were intended to indicate the *usual* periods of occurrence, all exceptionally early or late dates being excluded. It is to be regretted that this was not explained in the 'Handbook,' for I am told that the significance of the dates in question has been very generally misunderstood by the readers of Mr. Chapman's excellent book.

Writers on local ornithology usually restrict their chosen fields to districts included within established political boundaries, such as those of towns, counties, or states; to symmetrical areas enclosed by purely arbitrary lines, as Mr. Chapman did in his 'Birds found within Fifty Miles of New York City'; or to natural geographical areas, as islands, river valleys and the like. In dealing with the Cambridge Region in the present Memoir I have adopted a plan not dissimilar to the first of those just mentioned, although I have not hesitated to disregard political boundaries wherever natural or arbitrary ones were better suited to my general purpose. This in effect has been to treat of that territory (and no other) over which ornithologists and collectors, living in or very near Cambridge, have been accustomed to roam during excursions not exceeding a day in duration, and made directly from their own homes. It must be confessed that this arrangement was originally dictated quite as much by sentiment as by practical or scientific considerations;—nevertheless it has proved not unsatisfactory on the whole, despite the fact that it has led to some perplexities, and perhaps inconsistencies also. There has been no question as to the propriety of including the entire cities or towns of Cambridge, Watertown, Belmont (with its pretty little outlying village of Waverley), Arlington, Lexington, and practically the whole of Waltham. Weston and Lincoln have been excluded, partly because they are comparatively seldom visited by Cambridge ornithologists, and also because they have faunal affinities perceptibly, if but slightly, closer with the

¹ F. M. Chapman, Handbook of Birds of Eastern North America, 1895.

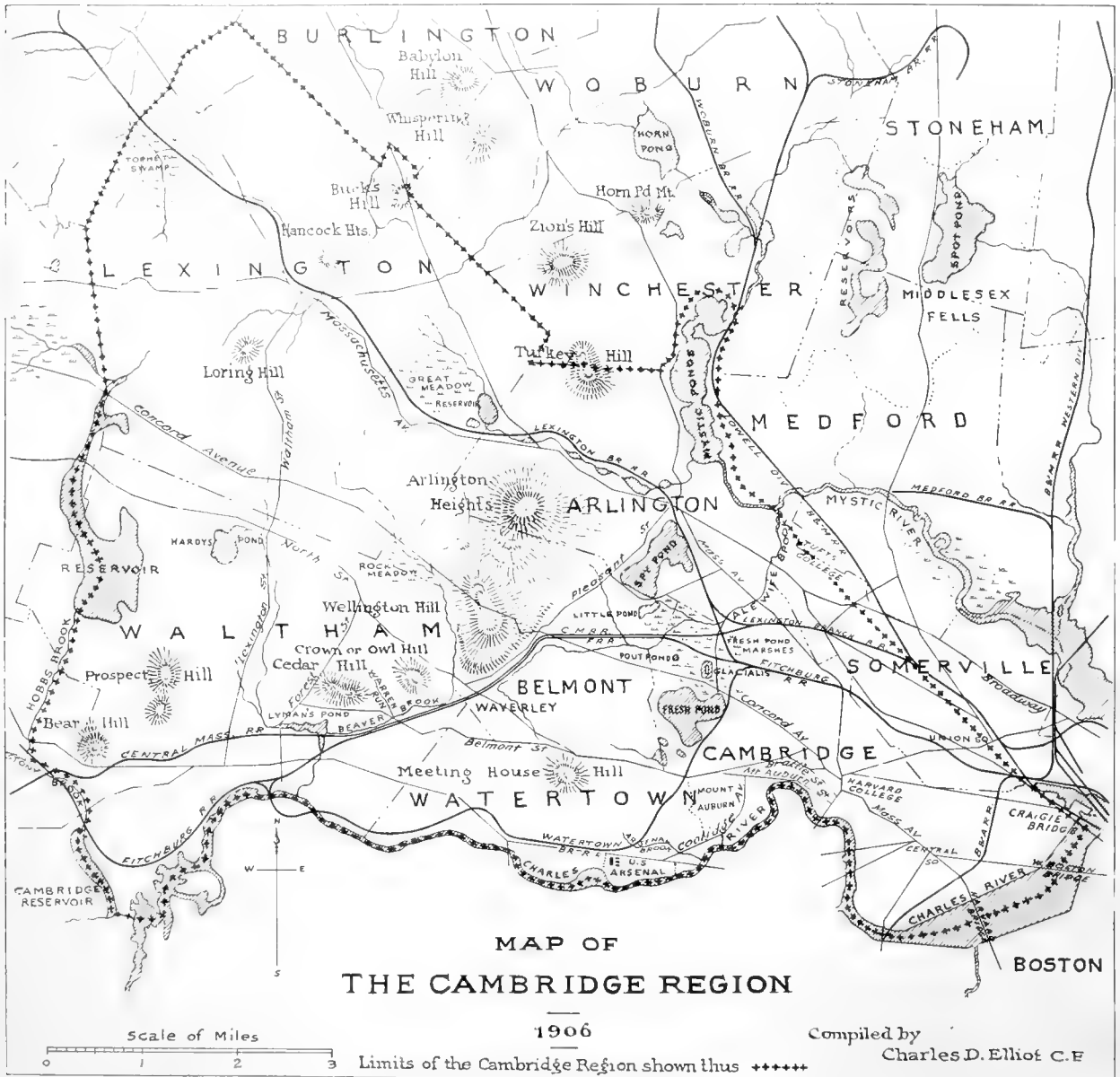
Concord River Valley than with the region to the eastward. For similar reasons it has seemed undesirable to take in more than the extreme western borders of Medford and the southern portions of Winchester, while the greater part of Somerville has been disregarded because it is too thickly settled to possess any ornithological interest. The total area included is definitely bounded on the south by Charles River, on the southwest and west by Stony Brook and its principal tributary, Hobbs Brook. Beyond Hobbs Brook Reservoir the line follows the western border of Lexington northward, and the northern borders of that town and of Arlington southeastward and eastward to the Upper Mystic Pond. After curving around the northern end of this pond, where it takes in a small part of Winchester, the line runs nearly straight in a generally southeasterly direction through the western portions of Medford and Somerville to Craigie Bridge, its starting point on Charles River.

No land bird not definitely known nor credibly believed to have been found within the boundaries just named, has been given a numbered place in the list. With the waders and water-fowl, however, the ruling has been somewhat less strict. They are notoriously addicted to flying back and forth over their entire feeding grounds, especially just before alighting, and for this reason both sides of Charles River and the Back Bay Basin, with the bordering marshes, are considered, in relation to these birds, as coming within the legitimate scope of the present paper.

Of the physical characteristics of the Cambridge Region it may be well to say a few general, preliminary words in this connection. The region comprises roughly about fifty square miles. Its extreme eastern portions, situated between the Charles and Mystic Rivers in Cambridge and Somerville, and in the eastern parts of Belmont and Arlington, are for the most part nearly level and but slightly elevated above tide-water. This low-lying plain, most of which is now densely populated, is enclosed on every side by hills, and crossed from north to south by a chain of fresh-water ponds of which the most noteworthy are the Upper and the Lower Mystic, Spy, Little, Pout, Fresh, and Bird's Ponds. To the westward the land rises rather gradually in the neighborhood of Mount Auburn and Fresh Pond, but very abruptly between the town centers of Arlington and Belmont where the plain is terminated by a wall-like ridge elevated in places to above three hundred feet and stretching northeast and southwest for a distance of two or three miles. Beyond this the country is thinly settled, extensively wooded, and everywhere broken and hilly. The principal elevations are Prospect Hill, Waltham (482 ft.), Bear Hill, Waltham (360 ft.), Arlington Heights, Arlington (380 ft.), Loring Hill, Lexington (360 ft.), and Wellington Hill, Belmont (310 ft.). Although well watered by brooks (most of which flow into either the Charles or the Mystic), the western portions of the Cambridge

Region contain only one natural pond of any size, *viz.*, Sherman's, Hardy's or Mead's Pond, as it is variously called, situated in the northern part of Waltham. On the extreme western border of this town there is, however, a large artificial reservoir which the City of Cambridge made a few years ago by damming Hobbs Brook.

Although most of Cambridge is now thickly covered with houses, it possesses many more trees than it did forty or fifty years ago when the districts lying to the west and north of Harvard Square, in the direction of Mount Auburn, Fresh Pond, and Arlington, were largely occupied by grassy fields and pastures or by vacant lots awaiting sale for building purposes. As this open land was cut up into streets and house lots, trees and shrubbery were planted in somewhat unwise profusion, with the result that this portion of the city has come to be buried in foliage in summer. A corresponding change is taking place in Watertown where, however, there is, at present, more open ground than formerly, for the planted shade trees have not as yet made good the loss of woods and orchards that have been cut away. The western portions of Arlington and Belmont, the northern part of Waltham and nearly the whole of Lexington, exclusive of its town center and that of East Lexington, have changed but little in my time. The land here is still very generally in the hands of the farmers, and the landscape, although devoid of striking or unusual features, is very pleasing by reason of its simple, rural beauty. On every hand untrimmed woods and thickets, neglected pastures sprinkled with cedars and barberry bushes, and natural grassy meadows traversed by brooks of undefiled water, border close on the cultivated fields and orchards. Many of the houses, as well as barns and other farm buildings, are of ancient and picturesque styles of architecture, the walls and fences are gray with age or with lichens, and the sides of the lanes,—with those of some of the less frequented public roads,—having been left largely to Nature's wise ordering, are fringed with a profusion of luxuriant native trees and shrubs of various kinds or buried deep in graceful ferns. In short, most of the changes which man has wrought in the original character and contour of the country have been long since either obliterated or rendered positively pleasing by the softening and refining effects of time, while—largely through the same beneficent influences—the artificial objects in the landscape, with comparatively few exceptions, have become almost perfectly harmonized with their natural surroundings. But even this remote corner of the Cambridge Region is not likely to remain unspoiled for many years longer. Lines of trolley cars have already penetrated it from two directions, land speculators are regarding it with hungry eyes, and the day cannot be far distant when it must share the fate that has already befallen so much of the once equally attractive country to the eastward.



MAP OF THE CAMBRIDGE REGION

1906

Compiled by Charles D. Elliot C.E.

Limits of the Cambridge Region shown thus +++++

THE CAMBRIDGE REGION.

The precise locations of most of the woods, swamps, marshes and ponds which I have had occasion to mention are shown by the maps accompanying this Memoir. Certain of these places have become so changed of late that they may be regarded — at least from the standpoint of the nature lover — as having practically ceased to exist. Their former characteristics and surroundings, as well as the present characteristics of a few other localities as yet essentially unchanged but of especial interest to the ornithologist, may be described as follows.

OLD CAMBRIDGE AND CAMBRIDGEPORT.

Our Garden.

From the time of my earliest recollection to the year 1873 our home place in Cambridge comprised about six acres of smooth, gently sloping land lying at the point of intersection of Brattle and Sparks Streets, Cambridge. It was bordered along both streets by rows of tall elms growing just within the enclosing fences, while a dozen German lindens of the largest size, and probably more than a century old at the date of my birth, were grouped about the front of the house, which had been built before the Revolutionary War. The rear of the house was embowered in purple and white lilacs, behind which was an old-fashioned flower garden. Still further back were orchards of apple, pear and peach trees, besides rows of raspberry, blackberry, currant and gooseberry bushes. The unshaded portions of the grounds were devoted chiefly to mowing fields, although a generous space was always set aside for the vegetable garden; there was also a small pasture for the cows and horses. Several of the neighboring estates were similar in character and of equal extent, while most of those scattered along the northerly side of Brattle Street, in the direction of Mount Auburn, backed on a wide expanse of open, farming country which stretched west and north to Fresh Pond and the Concord Turnpike and was intersected by the deeply rutted cart path known as Vassall Lane.

During the period just indicated the following birds occurred more or less regularly in summer in the grounds about our house.

- | | | |
|-----|----------------------------|--|
| 1. | Green Heron. | Frequently seen by day, flying over the place. |
| 2. | Black-crowned Night Heron. | Seen flying overhead almost every evening from May to October. |
| 3. | Yellow-billed Cuckoo. | Usually one pair, never more. |
| 4. | Black-billed Cuckoo. | Always a single pair. |
| 5. | Northern Flicker. | Seen frequently; occasionally a pair nested in the orchard. |
| 6. | Chimney Swift. | Dozens of birds frequented the place, and there were usually from one to three nests in the chimneys of the old house. |
| 7. | Ruby-throated Hummingbird. | One or two birds visited the flower garden daily, but no nest was ever found on the place. |
| 8. | Kingbird. | Always one pair, never more. |
| 9. | Wood Pewee. | One or two pairs. |
| 10. | Least Flycatcher. | From two to four pairs. |
| 11. | Blue Jay. | Of irregular occurrence; a pair nested in our lindens in 1878. |
| 12. | Bobolink. | Usually one pair, never more; they nested for the last time in 1873. |
| 13. | Cowbird. | Eggs found in other birds' nests every year. |
| 14. | Baltimore Oriole. | Four or five pairs. |
| 15. | Bronzed Grackle. | Birds from breeding colonies in other parts of Cambridge visited the place almost daily. |
| 16. | Purple Finch. | Usually two or three pairs nesting. |
| 17. | American Goldfinch. | From one to three pairs nesting. |
| 18. | Chipping Sparrow. | Five or six pairs nesting. |
| 19. | Song Sparrow. | Three or four pairs nesting. |
| 20. | Indigo Bunting. | Always one pair, never more. |
| 21. | Barn Swallow. | The members of a large colony which nested at the head of Sparks Street were accustomed to visit the place almost daily. |

- | | |
|----------------------------|---|
| 22. Tree Swallow. | From three or four to twelve or thirteen pairs nested regularly in the grounds about the house. |
| 23. Cedar Waxwing. | Two or three pairs nesting. |
| 24. Red-eyed Vireo. | One or two pairs nesting. |
| 25. Warbling Vireo. | Always a pair and nest. |
| 26. Yellow-throated Vireo. | One or two breeding pairs. |
| 27. Yellow Warbler. | Three or four pairs nesting. |
| 28. Catbird. | Usually a pair, never more. |
| 29. House Wren. | From one to five pairs nesting. |
| 30. American Robin. | Five to eight pairs nesting. |
| 31. Bluebird. | From one to three pairs nesting. |

Between the years 1873 and 1887 four of our six acres were cut up into house lots and rather closely built upon. Of the ground remaining, that in front and to the eastward of the present house — which stands on the foundations of the old house — has changed but little in appearance since the earlier time, most of it being still kept as a lawn, shaded, in places, by large trees. The group of lindens has lost only one of its original members, but most of the old elms have been replaced by younger trees. At the rear of the house all the ancient lilacs, as well as four large apple trees, are still standing. The ground formerly occupied by the pear orchard, about half an acre in extent, was thickly planted in 1886 with native forest trees. Shrubs of many different kinds, besides hundreds of ferns and innumerable perennial flowering plants taken from the woods, have also been set out at various subsequent times, not only under the trees but also in every available nook and corner, the only space left open being that which has always been devoted to the flower garden. In the selection of the herbaceous as well as woody-stemmed plants preference has been given to those which are especially attractive to the birds. Of the fruit-bearing trees and shrubs the mulberry, the rum cherry, the cultivated cherry, the shad bush and the Parkman's apple have proved most desirable for this purpose. The birds have also been furnished with an abundant supply of water by the construction of two shallow ponds, which contain fish of several kinds, besides a profusion of aquatic plants. In short the design has been to create a bit of woodland sufficiently natural and varied to furnish a congenial haunt for squirrels as well as birds.

The cats had to be reckoned with, of course, for they literally swarm in the neighborhood. After making a number of unsuccessful experiments I finally contrived a fence over which they cannot possibly clamber. It is of wire netting surmounted by a heavy twine fish seine which is fastened at the

bottom to the wire and looped at the top to the ends of long, flexible garden stakes. When the cat gets a little above the wire her weight causes the tips of the stakes to bend over towards her and she presently finds herself hanging back downward beneath a strip of loose, swaying fabric which affords her no means of further upward progress. If the seine be tarred and kept under cover during the winter it will last a dozen or more years.

Despite its limited area and the fact that it lies near the heart of a large city, our artificial forest is frequented at one or another season by a considerable number and variety of birds. It is true that none of the species characteristic of retired woodlands—excepting possibly the Solitary Vireo—have bred in it as yet, but very many of them visit it during migration, as is shown by one of the following lists which include all the species that have been noted at every season during the past five years.

Birds noted in Our Garden, 1900–1904.

Summer (including Permanent) Residents.

- | | |
|-------------------------------|--|
| 1. Screech Owl. | Occasionally noted in the breeding season, but not known to have nested actually within the grounds. |
| 2. Yellow-billed Cuckoo. | One pair every season; nest found in 1904. |
| 3. Black-billed Cuckoo. | Regularly one pair nesting in or near the garden. |
| 4. Northern Flicker. | Usually one pair, never more; nest in 1903. |
| 5. Chimney Swift. | One or two pairs flying overhead daily through June, July and August. |
| 6. Ruby-throated Hummingbird. | Seen occasionally in June, but no nests found. |
| 7. Least Flycatcher. | One or two pairs nesting near but not within the grounds. |
| 8. American Crow. | One or two pairs nesting in the neighborhood and seen daily. |
| 9. Baltimore Oriole. | One or two pairs nesting. |
| 10. Bronzed Grackle. | Several birds frequenting the place, but not nesting there. |
| 11. Purple Finch. | Seen for the last time in the breeding season in 1900. |
| 12. House Sparrow. | From one or two to five or six pairs. |

- | | |
|-----------------------------|--|
| 13. American Goldfinch. | One or two pairs seen daily; no nests found. |
| 14. Chipping Sparrow. | One or two pairs nesting. |
| 15. Rose-breasted Grosbeak. | Regularly one pair nesting in or near the garden. |
| 16. Cedar Waxwing. | Of irregular occurrence. |
| 17. Red-eyed Vireo. | One pair nesting. |
| 18. Warbling Vireo. | One pair, probably nesting in the neighborhood. |
| 19. Yellow-throated Vireo. | One pair nesting in or near the grounds. |
| 20. Blue-headed Vireo. | A male in 1903 and 1904, perhaps nesting. |
| 21. Yellow Warbler. | One or two pairs nesting. |
| 22. American Redstart. | One or two pairs nesting. |
| 23. Catbird. | One pair nesting. |
| 24. American Robin. | From one to three pairs nesting every season in the grounds. |

Winter Residents.

- | | |
|-----------------------------|--|
| 1. Herring Gull. | Seen flying over to Fresh Pond. |
| 2. Hairy Woodpecker. | Single birds occasionally, once a pair seen together. |
| 3. Downy Woodpecker. | From one to three birds almost daily. |
| 4. Blue Jay. | One or two noted almost daily. |
| 5. Pine Grosbeak. | Seen only in the winter of 1903-1904. |
| 6. Tree Sparrow. | One or two birds seen occasionally. |
| 7. Northern Shrike. | Noted only during the winter of 1900-1901; then rather frequently. |
| 8. Brown Creeper. | Single birds seen rather frequently. |
| 9. White-breasted Nuthatch. | Usually a single pair. |
| 10. Chickadee. | From one or two to eight or ten birds seen almost daily. |
| 11. Golden-crowned Kinglet. | Seen infrequently and sparingly. |

Permanent Residents.

- | | |
|----------------------|--|
| 1. Screech Owl. | Seen or heard occasionally at all seasons. |
| 2. Northern Flicker. | Seen almost daily throughout the year. |
| 3. American Crow. | Seen almost daily throughout the year. |
| 4. House Sparrow. | Always common, at times very abundant. |

Migratory Visitors.

1. Canada Goose. Flocks seen migrating on November 19 and 22, 1901, and March 24, 1903.
2. Black-crowned Night Heron. The call notes of birds on wing heard at night on September 25, 1901, and September 2, 1902.
3. Bartramian Sandpiper. Two records of birds passing overhead in August, 1904.
4. American Sparrow Hawk. Records of birds seen on wing in March, April, May and July.
5. Yellow-bellied Sapsucker. A bird seen in October, 1901, and another in April, 1904.
6. Whip-poor-will. A female found perched on the branch of an apple tree on May 22, 1900. I have a few records for earlier years.
7. Nighthawk. Two records for the first week of June, three for late August.
8. Kingbird. Of rather infrequent occurrence in May, July and August. One bird noted on June 16, 1902.
9. Crested Flycatcher. A single bird seen on May 15 and 16, 1900.
10. Wood Pewee. One record for May, one for June 4, one for July, two for August.
11. Yellow-bellied Flycatcher. Only one instance of occurrence, that of a bird found dead in the garden on June 4, 1902.
12. Bobolink. One record for May, one for July, one for September, and very many for August, all of birds flying overhead.
13. Cowbird. Noted but once — on April 4, 1900.
14. American Crossbill. Two records for April, one for May, five for November.
15. White-throated Sparrow. Common in May, abundant in September and October, occasionally present in April and November.
16. Slate-colored Junco. A few records for April, September, October and November. A single bird seen on December 30, 1904.

17. Song Sparrow. Seven records for March, five for April, and one for June 25, 1900.
18. Lincoln's Sparrow. Four instances of occurrence in May.
19. Swamp Sparrow. Nine records, all for May.
20. Fox Sparrow. Of rather common occurrence in March and April; also seen occasionally in October and November.
21. Towhee. Noted five times in May and twice in August.
22. Indigo Bunting. Six records, all for May.
23. Scarlet Tanager. Seen twice in August.
24. Barn Swallow. Eleven records for May, one for July, four for August.
25. Tree Swallow. Only one record, that of a bird seen on July 27, 1903.
26. Black and White Warbler. Of sparing but regular occurrence in May, common in July and August.
27. Nashville Warbler. Two records for May, one for August.
28. Orange-crowned Warbler. Several records for November.
29. Northern Parula Warbler. Noted only in May, at times rather commonly.
30. Black-throated Blue Warbler. Ten records for May, one for October, and one for November 3 (a late date).
31. Myrtle Warbler. Only six records, one for April, four for May, one for November.
32. Magnolia Warbler. Eleven records, all for May.
33. Chestnut-sided Warbler. Six records, all for May.
34. Bay-breasted Warbler. A single male noted in May, 1900.
35. Black-poll Warbler. May, early June, September and October; common.
36. Blackburnian Warbler. A male seen on May 14, 1900.
37. Black-throated Green Warbler. Two records, both for May.
38. Yellow Palm Warbler. A single bird seen on May 10, 1900.
39. Oven-bird. Of regular and common occurrence in May; also seen occasionally in August.
40. Water-thrush. Noted regularly and commonly in May and August; also seen occasionally in July, September and early October.
41. Mourning Warbler. Only one record, that of a young male taken on September 27, 1901. I have

- two earlier records, one of a male killed on May 21, 1866, the other of a male shot on June 3, 1877.
42. Northern Yellow-throat. Seen frequently in May and August; one record for June 3, another for September 29.
43. Wilson's Warbler. Three records, all for May.
44. Canadian Warbler. Fifteen records, all for May.
45. Brown Thrasher. Five records for May, one for October.
46. House Wren. A wandering (if not migrating) bird noted on June 27, 1901.
47. Red-breasted Nuthatch. Of occasional occurrence in March, April and December.
48. Ruby-crowned Kinglet. Two records for April, two for May, one for September.
49. Wood Thrush. Two records, both for the month of May.
50. Wilson's Thrush. Of rather frequent occurrence in May; noted once in August.
51. Gray-checked Thrush. Of regular occurrence in May; also seen occasionally in September and October.
52. Bicknell's Thrush. Noted occasionally in May.
53. Olive-backed Thrush. Many records for May; noted once in September and twice in October.
54. Hermit Thrush. Records for April, May, October, November, December, January and February.
55. Bluebird. Seen or heard occasionally in March, April, August and October.

Casual Visitors.

1. Marsh Hawk. One record by Mr. Walter Deane of a bird seen flying overhead on May 11, 1900.
2. Sharp-shinned Hawk. A female seen on January 9, 1901.
3. Belted Kingfisher. But one record, that of a bird seen flying on May 24, 1900.
4. European Siskin. A male seen on August 11, 13, and 17, 1904.
5. Cardinal. A female seen on December 26, 1902.

The Fields along Vassall Lane.

Some of the pleasantest recollections of my boyhood relate to the country traversed by Vassall Lane, and extending east and west from the site of the old Cambridge reservoir at the junction of Reservoir and Highland Streets (where Mr. Alvin F. Sortwell's house now stands) to Fresh Pond, and north and south from Concord Avenue nearly to Brattle Street. Throughout this area, now so thickly settled, there was not then a building of any kind. Most of the land was occupied by broad, smooth mowing fields; hubbly and, in places, boggy, pastures; and fine old apple orchards, many acres in extent. There were also one or two bushy swamps, several groves of large oaks, a conspicuous cluster of tall white pines, a few isolated shell-bark hickories of the finest proportions, and a number of scraggy wild apple trees. Here the dandelions and buttercups were larger and yellower, the daisies whiter and more numerous, the jingling melody of the Bobolinks blither and merrier, the early spring shouting of the Flicker louder and more joyous, and the long-drawn whistle of the Meadowlark sweeter and more plaintive, than they ever have been or ever can be elsewhere, at least in my experience. It was here that I spent most of my school holidays in the early '60s, collecting birds in company with Daniel C. French, now an eminent sculptor, or with Ruthven Deane, the well-known ornithologist. In early spring we pursued the shy Redwings from tree to tree or beat the wet hollows for Wilson's Snipe, often flushing the latter birds by scores, but only very rarely and by the merest chance bringing one to bag. The migrating Warblers, Vireos, Sparrows, Flycatchers, etc., which frequented the orchards and scattered groves or thickets later in the season, proved easier of capture and supplied us with many a specimen whose novel beauty or imagined rarity thrilled our youthful senses with wonder and delight.

In June there was the birds-nesting, dear to all boyish hearts and fascinating to every one who has ever indulged in it, by reason of its alternating successes and disappointments, and because of the insight which it gives into some of the innermost secrets of bird life. On one memorable occasion we found the nest of a White-breasted Nuthatch in an orchard near Gray's Woods; and, on others, eggs attributed with the rash confidence of extreme youth to all manner of impossible parentage.

Best of all were the mellow October days when the squirrels were busy gathering their winter stores from the oaks and hickories, and when in the close-cropped and still verdant pastures, flecked with cloud shadows and spangled with

the golden blossoms of the fall dandelion, we were sure of finding flocks of Meadowlarks and scattered companies of Flickers. The pursuit of these birds, ever wary from the persecution to which they were then almost constantly subjected, furnished for us, as it has for so many other youthful gunners, an infinite amount of wholesome pleasure and excitement. Nor was it attended by any serious diminution in the numbers of the birds, for our most carefully planned attempts to outwit them resulted much oftener in failure than success.

Gray's Woods.

On the eastern side of the Fresh Pond Parkway, about midway between Brattle Street and Fresh Pond, stand a number of fine old oaks and hickories. These trees, with perhaps twice as many others of equal size, which have long since disappeared, among which were a dozen or more white pines, were formerly enclosed on three sides by a high board fence. Just beyond this on the north lay a small artificial pond, and to the eastward of the pond a swamp of about an acre in extent, grown up to tall red maples. Both groups of trees with their immediate surroundings constituted what was known as Gray's Woods. The place used to attract a good many birds, including a few of the larger kinds, such as Crows, Red-shouldered Hawks and Night Herons. It fairly swarmed with red squirrels and chipmunks, and it was the only locality within the limits of Cambridge where the gray squirrel was found regularly during my boyhood.

Norton's Woods.

My old-time friend and present near neighbor, Dr. Walter Woodman, took an active interest in Cambridge birds during his boyhood, although he collected, I believe, only their nests and eggs. His favorite hunting ground was Norton's Woods, near Harvard College, Cambridge, and he still possesses a briefly annotated manuscript list of all the species which he noted there in summer between 1866 and 1874. This paper is of so much local interest that I am glad to avail myself of his kind permission to publish it in this connection which I do verbatim and in full:—

BIRDS FOUND BREEDING FROM 1866 TO 1874 IN NORTON'S WOODS
(SO-CALLED), CAMBRIDGE, MASSACHUSETTS.

The grove in which these notes were made is only about three miles from the State House in Boston and on all sides, for more than a mile, is surrounded by thickly planted houses. This fact gives my list its only interest.

TURDIDÆ.

T. migratorius. Robin. Very common, nesting high and low.

T. fuscescens. Wilson's Thrush. One or two pairs breed every summer. Once found the nest on the horizontal branch of a very large oak, height between fifteen and twenty feet. Cause, in all probability, disturbance of other nests, for this one was found late. Have twice found the nest in bushes at a height of about six feet.

S. aurocapillus. Golden-crowned Thrush. Never found a nest, but it occasionally passes the summer here.

M. carolinensis. Catbird. One pair; usually nests in lilac bushes but a few feet from the avenue leading to the house, notwithstanding that it is frequently disturbed.

PARIDÆ.

P. atricapillus. Black-capped Titmouse. One or two pairs every summer. Have found its nest at a greater height than that of any other bird with the exception of the Crow, Blackbird and Robin.

TROGLODYTIDÆ.

T. ædon. House Wren. Builds in the gardens all about the woods, but loves to romp in this common playground.

SYLVICOLIDÆ.

D. pinæ. Pine-creeping Warbler. Have never found its nest, but it sometimes passes the summer here.

D. æstiva. Summer Yellowbird. I generally find three to five nests.

S. ruticilla. Redstart. Common. I generally find three or four nests. They are placed at varying heights; sometimes four feet from the ground, sometimes twenty. Nests in oak saplings, oaks, birches, apple trees and bushes.

VIREONIDÆ.

V. olivaceus. Red-eyed Vireo. Common.

V. gilvus. Warbling Vireo. Usually one or two pairs, nesting in poplars beside the avenue before mentioned or in maples.

V. flavifrons. Yellow-throated Vireo. Not common. It breeds every summer, but I have not found its nest.

FRINGILLIDÆ.

C. purpureus. Purple Finch. Have not often found its nest, as it has pine trees only to breed in here, in which it is hard to discover them, as the nest is usually in the top, but I see the bird frequently.

C. tristis. Goldfinch. Strange to say, I have never found its nest, but I am sure that it breeds.

S. socialis. Chipping Sparrow. Very common.

M. melodia. Song Sparrow. Common.

M. palustris. Swamp Sparrow. I perhaps found it once, but as the nest was taken before I saw the bird, I consider it doubtful.

G. ludoviciana. Rose-breasted Grosbeak. At least one pair breeds every summer. Have found the nest oftenest in birches, but also in oaks (at a height of thirty feet) and in apple trees.

C. cyanea. Indigo-bird. Have found but two nests and these I found in the last two years, although I have seen the bird every year and have looked very carefully for its nest.

ICTERIDÆ.

M. pecoris. Cowbird. I do not often see the bird, but its presence is made known by its eggs.

A. phœniceus. Red-winged Blackbird. None breed now, though eight years ago there were quite a number of them. The last nest I found was in 1870.

I. baltimore. Baltimore Oriole. Very common in the woods, though most of them do not breed in them, but in the neighboring gardens and streets. I find some nests every year.

Q. versicolor. Purple Grackle. The commonest bird, though not as plenty, I think, as they were two or three years ago, when they used to breed in all the pines of which there are a great number, but now, owing to the constant robbing of their nests, they breed only in the pines that grow close to the house. This is the only place in Cambridge where they breed in such large numbers.

CORVIDÆ.

C. americanus. One or two pairs breed every year.

TYRANNIDÆ.

Contopus virens. Wood Pewee. Two or three pairs every year.

TROCHILIDÆ.

T. colubris. Ruby-throated Hummingbird. I have not found the nest, but the bird is constantly darting to and fro and probably breeds.

CUCULIDÆ.

C. americanus. Yellow-billed Cuckoo. Have found but one nest, though the bird is to be seen every year.

C. erythrophthalmus. Black-billed Cuckoo. More common than *C. americanus*, though for the last two years I have had greater difficulty in finding a nest than in former years. This grove seems, however, to be the grand hymeneal temple for all the birds of the species in the neighborhood, for they are very plenty in the courting season.

PICIDÆ.

P. pubescens. Downy Woodpecker. Not common, though there is at least one pair every summer.

C. auratus. Golden-winged Woodpecker. Constantly heard in the woods, but I doubt if more than one pair finds a good nesting place. Some years ago two or three pairs used to breed every summer.

SCOLOPACIDÆ.

Philohela minor. Woodcock. Have known it to pass the summer twice.

At the time to which Dr. Woodman's notes relate, Norton's Woods covered considerably more than twice their present area. If I remember rightly, they were then surrounded on three sides by a fence which, although offering no obstacle to the small boy of birds-nesting proclivities, served fairly well to keep out the general public. Once within this enclosure one might roam at will through woods and openings which, if not of great extent, were charmingly primitive and secluded. The ground under the trees, most of which were white pines, oaks and maples, was choked with undergrowth in places, and everywhere carpeted with pine needles or beds of fallen leaves. Two sluggish little brooks wound through the heart of the woods. One of them after emerging into the sunlight again, discharged its brown, leaf-stained waters into a swamp filled with blueberry and other bushes in which the Red-winged Blackbirds built their nests. In view of these conditions it is not to be wondered at that such birds as the Woodcock, Oven-bird and Pine Warbler continued to frequent the place in summer long after it had become hemmed in on every side by houses and other buildings.

The Blackbird swamp, situated in the angle between Kirkland Street and Beacon Street, was drained and occupied by the Shady Hill Nurseries about 1884. Soon after this the neighboring woods were seriously cut into on their southern side to make way for streets and houses, while some two or more acres on their western borders were also cleared to form a ball-ground in the rear of the Harvard Divinity School. As these changes are likely to be soon followed by others of still greater magnitude, it may be well to put on permanent record the following notes which I find in my journal under date of June 26, 1901:—

“Although the Norton estate has been greatly reduced in area during the past thirty years, certain limited portions of it remain nearly unchanged. Especially true is this of the immediate surroundings of the old mansion house, which stands on the crest of a hill of moderate elevation, in the midst of a group of fine elms whose branches droop low over the roof. The winding driveway that approaches the house from the west is shaded by large white pines, birches and red maples, while on either side of it lie gently sloping, grassy fields sprin-

kled with apple trees, thickets of lilacs, and clusters of wild roses. The roses were in full bloom this morning and cows were grazing under the trees. Altogether this portion of the place formed a singularly restful and pastoral bit of landscape, for one situated so near the heart of a large city.

"To the southward the hill slopes down to the now dry but still well-marked channel of the brook that used to flow into the Blackbird swamp. Its banks are fringed with oaks (chiefly *Quercus bicolor*), elms, red maples, willows, both kinds of hornbeam, gray birches, rum cherries, a few Norway spruces and some Austrian pines. The ground beneath these trees is free from undergrowth, and in most places carpeted with grass turf. Some of the oaks and maples are of large size and evidently very old. The spruces and pines must have been planted here, but all the other species are apparently indigenous.

"At the base of the western slope lies all that is left of Norton's Woods — a mere fragment covering, at the most, barely two acres yet essentially a still primitive bit of wilderness. The trees are chiefly white pines of fair size but not in flourishing condition, their foliage, like that of most of our Cambridge white pines, being scanty and rusty looking. Among or near them are a number of oaks — white, swamp white, black, and scarlet — all of the forest-grown type (*i. e.*, with long trunks branching high above the earth) and not a few of really fine proportions. There are also tupelos (most of them small, but several sixty or seventy feet in height with trunks three or four feet in girth), red maples, rum cherries, elms and a few clusters of gray birches. The only trees which appear to have been introduced here are a horse chestnut and some Norway spruces.

"Under the larger trees young oaks, maples, elms, wild cherries and a few hawthorns, form a thin but untrimmed and perfectly natural undergrowth, overrun in places with greenbrier. Much of the ground is also densely covered with poison ivy, woodbine and blackberry vines, but beneath some of the pines it is carpeted only with pine needles. I could find none of the plants which usually grow in natural woodland, such, for instance, as the ground pines, pipsissewa, sarsaparilla, partridge berry, etc. Indeed I have named all the species that I noticed.

"The place has been long since open to the public, and while I was there this morning people were continually passing and repassing along the broad and numerous footpaths which cross each other at intervals of every few yards and divide the thickets into many separate copses. The absence of the shy wood plants, as well as the languishing condition of the pines, is probably due largely to this constant trampling of feet which has worn away most of the leaf mould and made the surface of the ground almost as hard as that of a city sidewalk."

On the occasion just mentioned I noted the following birds in Norton's Woods :—

- | | |
|------------------------------|--|
| 1. Flicker. | One. |
| 2. Chimney Swift. | Several flying high over the woods. |
| 3. Wood Pewee. | One singing in the pines over the drive-way. |
| 4. Crow. | Two birds. |
| 5. Baltimore Oriole. | A single male. |
| 6. Bronzed Grackle. | A dozen or more. |
| 7. House Sparrow. | About half a dozen seen. |
| 8. Chipping Sparrow. | A pair accompanied by their brood of young. |
| 9. Rose-breasted Grosbeak. | One. |
| 10. Cedarbird. | One or two heard. |
| 11. Red-eyed Vireo. | One singing. |
| 12. Warbling Vireo. | One singing. |
| 13. Yellow-throated Vireo. | One singing. |
| 14. Yellow Warbler. | One singing. |
| 15. Redstart. | One (a nest with eggs was found earlier in the season). |
| 16. White-breasted Nuthatch. | One (I afterwards learned that a pair of these Nuthatches hatched and reared their brood this season in a hollow maple in Norton's Woods). |
| 17. Chickadee. | One. |
| 18. Robin. | Eight or ten, all old birds. |

Cambridgeport.

Concerning the birds which continued to breed nearly or quite up to 1870 in the lower portions of Cambridgeport, and especially in the immediate neighborhood of Brookline Street, my friend Mr. Henry W. Henshaw has been kind enough to furnish me the following interesting account :—

HILO, HAWAII, May 17, 1901.

You ask about the summer birds of Cambridgeport in the late sixties. That is to hark back a long time and to conditions very unlike those of the present. The city of today is

much more populous and far busier than it was then, and the gardens are fewer in number and more circumscribed in area. These new conditions and the all-pervading House Sparrow have produced a marked change in the bird life of the town.

I doubt if within the entire city limits of today can be found an Indigo-bird, and yet a pair used to nest every summer close to my old home on Brookline Street. In fact these Indigo-birds, which were made known to me by my mother when I was but a lad, were the first impelling cause that later led to an absorbing interest in all bird life. I well remember the excitement caused by the arrival of these birds late in spring; and the cheery song of the male, as he sang his lay from the top of a tall juniper, is the first bird song I ever attentively listened to.

I need scarcely remark that the Robin was a numerous and a welcome visitor to the lawns and garden plots of our neighborhood; and the indignation excited in our household by a neighbor is still fresh in mind, his crime being the shooting of a number of Robins and Orioles because they were freely sampling his ripening cherries.

The Oriole, resplendent with Lord Baltimore's colors, was fully as numerous as the Robin, and the wide-spreading elms of the town offered this bird an abundance of safe and inviting nesting places. Some tall sycamores in our neighborhood were also favorite nesting sites for this beautiful species, whose loud cheery notes even now after these many years still ring in my ears, and for the moment banish the whisper of the palms and the rustle of the banana leaves.

But perhaps our most highly prized avian friend was the little House Wren. Though a common scold and a prying busybody, his confiding disposition and his habit of nesting in the out-buildings endear him to all bird lovers. Every year a pair nested in a box in our garden, especially provided for them. I used to hear the notes of the House Wren here and there over much of the town, so that it must have been rather numerous in those days.

In my time, at least, the prince of the Swallow tribe, the Purple Martin, was absent from Cambridgeport, but I am confident that I was told by my mother that it was not always so, and that not many years prior to the sixties there were regularly established colonies within Cambridgeport limits.

If the Martin was absent, the Swallow tribe was well represented by both the White-bellied and the Barn Swallow. One or more pairs of the former, according to the accommodations provided, used to nest in boxes in our garden, and a greater or less number of either species were always to be seen in summer skimming over the Charles River Marshes, from Whittemore's Point upstream towards Mount Auburn. In the early fall thousands of both species flocked to these marshes and alighted in long lines on the telegraph line that followed the course of the then disused railroad.

These same marshes, every foot of which was familiar to me, were frequented abundantly by the Savanna Sparrow, which nested among the marsh grass, and whose simple trilling song I here heard for the first time. A still rarer bird also nested here, the Sharp-tailed Finch, and I recall with pleasure the unfeigned delight of our mutual friend, Dr. Thomas M. Brewer, when I showed him a clutch of eggs obtained by me on Whittemore's Point, possibly the first set ever found in Massachusetts.

Of course the Bluebird was distributed here and there all over the town, the presence of a pair indicating with unfailing certainty the residence of a bird lover. In those days "Barkis was always willin'!" One had only to put up a suitable Bluebird box, and the invitation was promptly accepted. One of my boxes in an old greening apple tree was the favorite resort of a pair of these birds. This particular pair commonly reared two broods, as I fancy do most

pairs, and was the occasion of much jealousy and heart burning on the part of the Wrens whose box they coveted for the second nesting.

I do not think that the Cedarbird was a common resident of Cambridgeport, but there was a row of cedars outside our garden fence, in which they occasionally nested, as they did also every year in Pine Grove at the end of Brookline Street. Though practically silent, their trim forms and exceedingly beautiful though quaker-like dress entitle the Cedarbirds to a high place among the bird aristocracy, and render them a favorite in any neighborhood.

In these same cedar trees, too, a pair of Purple Finches occasionally nested, and the beautiful song of this species was by no means uncommonly heard elsewhere in the town. Pine Grove, however, was the favorite resort of this Finch, and there was a pasture thick with tall, bushy savins in which could be found, any summer, six or eight nests of this bird. I grieve to add that only too often they were raided by thoughtless boys, who frequently destroyed the eggs out of pure wantonness. This location must have possessed some peculiar and powerful attraction to the Finches, for, notwithstanding their ill treatment, they continued to nest here for years, often building new nests in place of those destroyed.

Nor in my enumeration must I forget the familiar 'Chippy' as one of the commonest Cambridgeport birds. Their hair-lined nests were frequently to be seen in cedar trees or, in default of these, in any thick and well-screened bush, or even in an apple tree.

Though not a common bird, as I remember, the Red-eyed Vireo was by no means unknown to the Cambridgeport streets. I cannot now recall the presence of his cousin, the Warbling Vireo, though doubtless a pair was to be found, here and there, making the neighborhood the richer by the sweet, warbling song. I believe, however, that this Vireo was much more common in Old Cambridge.

In the early spring it was no uncommon sight to see a Song Sparrow or two in the gardens along Brookline Street, and no doubt occasionally a pair ventured to build in the shrubbery, though the risk from marauding cats must have been very great. Pine Grove, however, was a favorite resort for the species, and here I early became acquainted with their housekeeping secrets. They used to build among the straggling blueberry and huckleberry bushes, which still bore fruit, maintaining a rather precarious existence in this little piece of pine woodland.

I never heard nor saw the Pine-creeping Warbler within the busy parts of the town, but the little island of pines I have so often mentioned as 'Pine Grove,' an heirloom from early Colonial times, was still resorted to by a few pairs, perhaps the descendants of birds that nested here in Indian days. It was here that, lying on a bank among the pines that overlooked the sluggish Charles, I first became acquainted with the Pine Warbler's sweet trilling song; and many a pleasant hour I spent as a boy hunting, and hunting in vain, for its nest.

The above are all the birds that I remember as summering near my old home, and I fancy that but few of them are still to be found amid the increasing hum of an ever growing city.

When Alvin Clark built his observatory he cut down part of Pine Grove, much to our childish grief, and greatly to our relief when we found that his house and observatory were not to occupy the whole grove. The trees were mostly pitch pines with a few oaks and a number of hickories.

The 'cedar' pasture was thick with what I suppose to have been *Juniperus virginiana*. It must first have been enclosed when I was a small boy since, when I first knew it, I was able to jump over most of the shrubby trees without regard to the tapering tops. As they grew, they furnished sites for the nests of the Purple Finches and the Chippies, especially the former.

We used to call the little island of high ground covered with pitch pines, now known as Captains Island, the Magazine, because the powder house, where the State (I think, and certainly Dupont) stored powder, was located there. They used to cart Dupont's powder by my house on the way to Boston, and one day a cask leaked, and one of our neighbors saw a trail of powder on the street, leading to the cart. She reported the matter, and thereafter Dupont kept his powder on a hulk in the harbor. Was not Magazine Street named from this storage place?

The Magazine woods were always inhabited by at least a pair of Pine Creepers, probably more. Pine Grove also had a pair or two, and they were found in both places during the migration. Both localities were favorites with the Song Sparrow, as you would naturally expect, and now I remember that there used to be a pair of Flickers in Pine Grove. I do not recall that we ever found or even looked for their nest. I must have been very small at this time, and later the Flickers no doubt deserted woods so much frequented.

HENRY W. HENSHAW.

During the four years (1865-1869) when I was at the Cambridge High School on Fayette Street my daily walks to and from the school led, beyond Harvard Square, through Harvard Street or Broadway — or, more rarely, through Main Street (now Massachusetts Avenue). As term time included the months of May and June, I had abundant opportunities for noting the summer, as well as migratory and winter, birds which frequented Dana Hill and the neighboring districts to the east and west. Of the species which occurred during migration it is not necessary to speak in this connection. Those seen regularly and commonly in winter were the Downy Woodpecker, Flicker, Goldfinch, Tree Sparrow, Junco, Brown Creeper, Chickadee and Golden-crowned Kinglet. The White-breasted Nuthatch was also observed occasionally, and the Lesser Redpoll in large flocks during some seasons. Crows were frequently seen flying overhead, but never, I think, in the trees or on the ground.

In summer the Yellow-billed Cuckoo, Black-billed Cuckoo, Flicker, Chimney Swift, Kingbird, Wood Pewee, Least Flycatcher, Cowbird, Baltimore Oriole, Purple Finch, Goldfinch, Chipping Sparrow, Song Sparrow, Indigo-bird, Barn Swallow, Tree Swallow, Cedarbird, Red-eyed Vireo, Warbling Vireo, Yellow-throated Vireo, Yellow Warbler, House Wren, Robin and Bluebird were all common and very generally distributed, while the Eave Swallow and Catbird occurred sparingly and the Hummingbird rather rarely. I do not remember ever seeing the Redstart or Rose-breasted Grosbeak, save during migration, or the Blue Jay at any season.

It is interesting to compare with the above list one which Mr. Walter Deane and I made on June 26, 1901, after spending several of the earlier hours of the day in the same district, rambling slowly through most of its streets, watching and listening for birds. On this occasion the following species were noted:—

Chimney Swift. Heard twittering over Prescott Street, at the corner of Dana and Harvard Streets, and over Harvard Street east of Inman Street.

Baltimore Oriole. No birds seen or heard, but a fresh-looking nest noted in an elm near the corner of Harvard and Hancock Streets.

Warbling Vireo. A male heard singing at the corner of Dana and Harvard Streets, another at the corner of Inman and Harvard Streets, and a third at the corner of Fayette and Cambridge Streets.

Yellow Warbler. Two birds seen on Prescott Street, two males heard singing near the corner of Dana and Harvard Streets, a third heard on Hancock Street, a fourth at the corner of Fayette and Cambridge Streets, and a fifth at the corner of Baldwin and Cambridge Streets.

Redstart. A male singing on Prescott Street, another on Maple Street, a third at the corner of Harvard and Hancock Streets.

Robin. Eight birds in fully mature plumage seen on Dana, Harvard, Maple and Hancock Streets, and on Broadway.

Although it would be idle to claim that all the species which frequented the Dana Hill district in the early summer of 1901 are named in this list, it probably includes most of them. We found House Sparrows abundant everywhere, of course, while east of Inman Street they were so numerous that the din of their shrill voices was at times almost deafening.

BACK BAY BASIN.

Within the memory of persons still living Boston was confined to what was essentially a hilly island. Indeed its only original connection with the mainland was that afforded by Dorchester Neck, a narrow strip of land, so low as to be sometimes flooded by exceptionally high tides. To the north and west, in the direction of Cambridge and Brookline, stretched the Back Bay, a broad and beautiful sheet of water, shallow for the most part, and bordered in places by salt marshes. Here the Boston sportsmen of fifty or sixty years ago enjoyed excellent shooting, for the Bay was then frequented by a great number and variety of waterfowl and waders. Not long afterward the city began to overspread its natural limits and to extend westward, converting water into land. By 1870 nearly all those portions of the Bay lying towards Brookline and Roxbury had been filled. Its only remaining portion, that separating Boston from Cambridge, into which Charles River empties just below Brookline Bridge, has been since considerably reduced in area by filling, and its once gracefully curving shore lines have been

replaced by straight and unsightly sea walls. Nevertheless, it still forms a not unattractive body of water, upwards of two miles in length and a quarter of a mile or more in breadth. This has come to be called the Back Bay Basin, a name which appears rather frequently in the present paper, especially in the text relating to water-fowl. Certain of these birds continue to resort to the Basin in by no means inconsiderable numbers. Indeed the Herring Gulls and Whistlers are more abundant and very much more familiar there now than they were thirty or forty years ago. At that time they were constantly disturbed by gunners, who not only pursued them in boats but were permitted to shoot at them from the bridges used for public traffic. I have repeatedly seen an unsuspecting Gull, flying low over West Boston Bridge,¹ brought dead or wounded to the pavement by a well-directed shot fired from the very midst of crowded teams and street cars. Horses were often frightened, and occasionally even injured, by this reckless practice. It was rather out of consideration for them than for the birds, if I remember rightly, that all shooting on the Basin, as well as on the bridges that crossed it, was finally stopped; but the birds, of course, were especially benefited by the change. Without doubt their present abundance is due chiefly, if not wholly, to the complete immunity from molestation which they continue to enjoy. The Whistlers are somewhat less numerous now than they were eight or ten years ago, probably because of the fact that many of the flats where they were accustomed to dive for food at high water, have been recently removed by dredging.

CHARLES RIVER MARSHES.

Dear marshes! vain to him the gift of sight
 Who cannot in their various incomes share,
 From every season drawn, of shade and light,
 Who sees in them but levels brown and bare:
 Each change of storm or sunshine scatters free
 On them its largess of variety,
 For Nature with cheap means still works her wonders rare.

¹ The old wooden bridge was begun on April 8, 1793, and finished on November 23 of the same year. It has been replaced by a steel structure, resting on granite piers, which is now almost completed.

In Spring they lie one broad expanse of green,
 O'er which the light winds run with glimmering feet:
 Here, yellower stripes track out the creek unseen,
 There, darker growths o'er hidden ditches meet;
 And purpler stains show where the blossoms crowd,
 As if the silent shadow of a cloud
 Hung there becalmed, with the next breath to fleet.

In Summer 't is a blithesome sight to see,
 As, step by step, with measured swing, they pass,
 The wide-ranked mowers wading to the knee,
 Their sharp scythes panting through the wiry grass;

Another change subdues them in the Fall,
 But saddens not; they still show merrier tints,
 Though sober russet seems to cover all;

But crowned in turn by vying seasons three,
 Their winter halo hath a fuller ring;
 This glory seems to rest immovably,—
 The others were too fleet and vanishing;
 When the hid tide is at its highest flow,
 O'er marsh and stream one breathless trance of snow
 With brooding fulness awes and hushes everything.

LOWELL.—*An Indian-summer Reverie.*

The tidal reaches of Charles River above the Basin have changed strikingly in general aspect within my personal recollection. I can remember when they were bordered on both sides, nearly all the way from Cambridgeport to the Watertown Arsenal, by salt or brackish marshes. These must have been practically continuous, originally, for most of the hard, dry ground that comes to the water's edge is evidently filled land. Very little of it had been built upon prior to 1870, excepting in the neighborhood of Harvard Square and of the several bridges, where there were a few houses and a number of coal and lumber wharves. In Cambridgeport the marshes stretched uninterruptedly along the northern shore of the river—or rather of its expansion, the Back Bay—from West Boston Bridge to Brookline Bridge and beyond. Between these bridges they were more than a mile in length and from one to several hundred yards in width. Save for the presence of a railroad embankment, which crossed them from east to west, they showed here no obvious defacement

or alteration by the hand of man, before 1875. Since then they have been almost completely obliterated, and the space which they, as well as a considerable portion of the neighboring bay, formerly covered, is now occupied by the gravel-filled expanse, with its bordering parkway and sea-wall, which one crosses on approaching Harvard Bridge from Cambridge by way of Massachusetts Avenue.

Equally primitive and even more extensive were the Brighton Marshes beloved by Longfellow and Lowell, by whom they have been immortalized in verse and prose. To these eminent poets, as well as to a few other equally sympathetic if less eloquent lovers of nature, they were beautiful and attractive at all seasons; but from the standpoint of more practical men, such as those who have since so nearly compassed their destruction, they were but waste lands, unsightly to the eye and more or less prejudicial to the health of human-kind.

The river flowed directly through them, restricting, however, to the Brighton side, the broader and fairer portions which have been lately converted into Soldier's Field and the neighboring parkway and speedway. These were originally clothed, for the most part, with the short, fine, dark green grass peculiar to salt marshes; but tall sedges, seashore goldenrod, and other maritime plants marked the courses of winding, natural creeks, and straight, artificial ditches, which were alternately filled and emptied by the ceaseless tides. There were also many shallow pools bordered by bare, muddy ground, the favorite resorts of various kinds of waders. In July and August, when the haymakers were at work, building up the great stacks which added so much to the picturesqueness of the landscape later in the year, the Brighton or 'Longfellow Marshes,' as they have come to be called, literally swarmed at times — especially just before easterly storms — with Least and Semipalmated Sandpipers. They also attracted Ring-necked Plover and Pectoral Sandpipers in fair numbers, besides a few Upland Plover, and Yellow-legs of both species. During exceptionally dry autumns they were often frequented by Wilson's Snipe and Carolina Rails. Herons of several kinds visited them at one or another season, attracted, no doubt, by the multitudes of small, sluggish fishes, locally known as 'Cobblers,' which inhabited all the creeks and ditches. The Bittern and Great Blue Heron occurred only sparingly, during migration, but from May to October the Green Herons came frequently by day, and the Night Herons very numerous at evening, from their roosts in the Fresh Pond Swamps. The Night Herons attracted especial attention, as they crossed the intervening belt of elevated and rather thickly settled country in the gathering twilight, by their loud calls and impressive flight.

The Cambridgeport Marshes were visited by most of the birds just mentioned, as well as by three forms of the Sharp-tailed Finch, the Acadian and Nelson's, which occurred only during migration (the Acadian being sometimes

very numerous in autumn), and the typical form, *caudacutus*, which bred sparingly, up to 1871 or a little later, on Whittemore Point, a marshy promontory that jutted out into the bay just to the westward of the present location of Harvard Bridge.

Practically all the marshes along the river, from Cambridgeport to Watertown, were frequented throughout the summer by Savanna Sparrows and Spotted Sandpipers; in July and August by hordes of migrating Bobolinks and myriads of graceful Swallows; in autumn by undulating flights of Titlarks; in winter by flocks of restless Snow Buntings whirling over the fields of drifting ice, and by sable Crows which came to feed on the mud flats exposed at low tide. Occasionally at the latter season—but only at wide and infrequent intervals—they received a visit from that prince of Arctic wanderers—the great Snowy Owl.

The work of reclaiming—or, as some of us prefer to characterize it, of *destroying*—the Charles River Marshes has progressed rapidly and relentlessly of late. Although not as yet nearing completion, it has already resulted in the total obliteration or very serious disfigurement of most of these once primitive and beautiful salt meadows. Indeed, the only one of any size remaining essentially unspoiled is that which borders the Cambridge Cemetery on two sides and stretches still further westward along the north bank of the river.

The transformation wrought in the surface conditions of the marshes, has been accompanied, of course, by equally profound changes in their bird life. Of the birds which used to inhabit or visit them, only a very few continue to do so, at least regularly or numerously. The Herons have nearly or quite disappeared within the past three years; the Sandpipers and Plover come but infrequently, and in ever diminishing numbers; the Swallows and Bobolinks only by tens where formerly there were hundreds. The loss of these and other marsh-frequenting birds has been compensated for in large measure, however, by the increased number of water-fowl to which I have just called attention.

THE MOUNT AUBURN REGION.

Mount Auburn—or Sweet Auburn, as it was formerly called—was one of Nuttall's favorite haunts. Its abrupt heights and deep hollows were covered in his time by heavy and perhaps primeval forest, frequented by sportsmen in pursuit of game and by troops of children looking for nuts or for the shy hepaticas which bloomed in early spring on some of the sunnier slopes. Most of the trees and all the brushwood had been cut away, and the place otherwise adapted to the

uses of a cemetery, before 1860. At that time, however, and indeed for upwards of twenty years later, the country to the westward, as far as the Watertown Arsenal and beyond, was essentially primitive in character and but sparsely populated, chiefly by farmers of the good old New England type, born on the land which their ancestors had tilled for generations or even from the date of its first settlement. Only the more level and fertile tracts were then under cultivation, and most of the hills, ridges and swampy hollows, as well as occasional stretches of flat but sandy or gravelly land, were heavily wooded. There were also isolated groups of forest trees and very many thickets of limited extent, besides a number of fine old apple orchards. Throughout the more open country the lichen-encrusted walls and fences, that separated the cultivated fields from adjoining mowing, pasture, or brush lands, were very generally bordered and half concealed by rows of stately red cedars or natural hedges of barberry or privet. The woods varied greatly in character and extent. Some of them were nearly or quite free from undergrowth and composed almost wholly of large deciduous trees, such as oaks, maples, hickories and chestnuts, or of tall, slender pitch pines standing so near together that only an occasional shaft of sunlight penetrated through their interlacing tops and upper branches, to flicker for an instant on the smooth carpet of light brown needles that covered the ground beneath. In others of younger growth sturdy bushes of various kinds struggled for light and room with the still more crowded and vigorous oak, maple, and birch saplings by which they had been already overtopped. In still others the trees were irregularly or sparsely distributed, leaving sunny openings of various shapes and sizes, bounded by walls of foliage too dense for the eye to penetrate. This was especially the case where neglected, barren land had been allowed to grow up to red cedars or pitch pines. Both these trees were abundant nearly everywhere and, indeed, eminently characteristic of the region. It contained comparatively few white pines and, if I remember rightly, no hemlocks. Of the larger and more conspicuous shrubs the barberry, privet, buckthorn and high blueberry were perhaps the commonest and most generally distributed species.

As may be gathered from the foregoing description, the region beyond Mount Auburn was rich in picturesque beauty and attractiveness at the time of which I am now writing. Much of it was then so little frequented by man that one might wander for hours through the deep, silent woods, in the broad, smiling fields, or beneath the grateful shade of the low-branching orchards, without meeting anyone save, perchance, a farmer owner of the land or some bird lover or sportsman. There was, moreover, an all-pervading atmosphere of serenity, and of remoteness from all worldly noise and bustle, very restful to the senses and disturbed by few sounds of human origin more obtrusive than the distant whistle of a locomotive, the report of a gun, or the gruff voice of a ploughman chiding his slow-moving horses. Of the more natural and harmonious sounds, proceed-

ing from various wild creatures such as inhabit most retired New England woods and fields, there was, however, no lack, for the region teemed with animal life. As a winter resort for birds it was unequalled by any locality that I have ever known in eastern Massachusetts. During the colder months the woods or thickets invariably harbored numbers of Downy Woodpeckers, Flickers, Blue Jays, Crows, Goldfinches, Tree Sparrows, Juncos, Creepers, Nuthatches, Chickadees and Kinglets, besides a few Quail, Ruffed Grouse, Red-tailed Hawks, Red-shouldered Hawks and Screech Owls. Pine Grosbeaks, Purple Finches, Redpolls, Pine Siskins, and Crossbills of both species occurred less regularly, but often very numerous. Most abundant and conspicuous of all the birds found in winter were the Robins and Cedarbirds. They usually appeared late in January and were constantly present through February, often congregating by hundreds in the cedar groves or about a large bed of asparagus where the stalks, laden with bright red berries which these and a few other birds greedily devoured, were always left standing until April or May.

In spring and autumn the Mount Auburn Region attracted a large number and variety of Warblers and other small woodland or orchard birds, most of which were on their way to or from more northern breeding grounds. Indeed, at these seasons it was almost as good a collecting ground as the Maple Swamp. Its summer fauna, also rich and varied, included one species of especial interest, viz., the Olive-sided Flycatcher, which Nuttall found breeding near Mount Auburn before 1832, and which continued to nest in the same locality from 1867 to 1879. Among the commoner and more characteristic summer birds were the Pine Warbler, which inhabited all the pitch pine woods, the Purple Finch, which bred abundantly in some of the cedar groves, and the Bluebird, the House Wren and the Yellow-billed Cuckoo, which were plentifully distributed throughout the apple orchards.

The nature lover who has occasion at the present time to traverse the country just beyond Mount Auburn will find but little of beauty or interest there. Knolls and ridges have been levelled, swamps and meadows drained or filled, and woods, groves, thickets and orchards swept away, to make place for settlements of houses or for open, closely cultivated truck farms. The few remaining trees are infested by gypsy and brown-tailed moths, most of the native birds have disappeared, and throughout the length and breadth of the land the ear is wearied by the ceaseless din of swarming House Sparrows. Indeed, the entire region, once so secluded and attractive, has become irretrievably mutilated and hopelessly vulgarized. So complete has been the transformation, that it is only by appealing to the imagination, or to the memory of happy days gone, alas, never to return, that one can hope to reconstruct even the more prominent features of the landscape as it was twenty or thirty years ago.

FRESH POND.

Time was — and that not so very long ago — when Fresh Pond had perfectly natural shores, well wooded in places and indented by no less than five large reedy coves, or ‘nooks,’ as we used to call them. It was then a remarkably pretty sheet of water, somewhat disfigured, it is true, by the huge icehouses clustered about Cambridge and Black’s Nooks and at the southwestern end of the pond. These buildings — with certain others — were demolished in 1890 and 1891, soon after the immediate surroundings of the pond were taken for a public park. Its shores might have been adapted to this purpose without much injury to their great natural beauty, but the work, unfortunately, was entrusted to persons who possessed neither sound judgment nor good taste in respect to such matters — as the results abundantly show. The removal or serious disfigurement of most of the hills and ridges which encircled the pond, the filling of three of its larger coves, and the total obliteration of all its original shore lines, were among the worst pieces of needless vandalism committed at this time. Another grave blunder was the running of the park driveway close to the water’s edge about the entire pond. Had this driveway been brought to the margin of the water at a few places only and elsewhere kept well back from it, traversing, wherever possible, the lower slopes of the bordering hills and occasionally passing over or even behind their projecting spurs, the shores of the pond would have been but slightly marred and the road itself made infinitely more attractive and picturesque than it is at present, as any competent landscape architect would have seen at a glance.

I can remember when the water-fowl which frequented Fresh Pond came to it chiefly in the early morning, during their southward migrations in autumn, and when they were usually killed or dispersed by the local gunners not long after their first appearance. The species which alighted oftenest may be named in the order of their relative abundance, as follows: The Ruddy Duck (invariably called ‘Dumb-bird’), the Hooded Merganser, the Buffle-head, the Lesser Scaup, the Coot (*Fulica*, locally known as ‘Meadow-hen’) and the Pied-billed Grebe or ‘Dipper.’ Canada Geese, Wood Ducks, Teal of both kinds, Whistlers, Old-squaws, Surf Scoters, White-winged Scoters, Goosanders and Loons also alighted more or less frequently. Black Ducks were seen regularly in autumn, and during frosty October mornings often in large numbers, but most of them passed high over the pond and very few ventured to settle there, although they were often surprised and killed in the neighboring marshes and smaller ponds.

For four or five years (from 1867 to 1871) Ruthven Deane and I followed the morning shooting at Fresh Pond rather closely. It began early in Septem-

ber, when the first Teal, Wood Ducks and Mud-hens (*Fulica*) arrived from the North, and was at its best during the month of October, when there were always numbers of Ruddy Ducks and a variety of other water-fowl. I remember many of the experiences of those years as vividly as if they had happened only yesterday. It was necessary to be early on the ground,—or rather water,—and, as we lived nearly a mile from the pond, we were accustomed to start an hour or more before daybreak and to make our way, as best we could in the darkness, to the place where our boats were kept. Sometimes we followed Vassall Lane, stumbling over its deep ruts and other inequalities of surface, but when there was a moon we often struck directly across the open fields, skirting the marshy spots and passing the dimly outlined forms of recumbent cows sleeping under the wild apple trees. There were few sounds save the drowsy creaking of crickets in the dew-laden grass, the faint lisping notes of migrating Warblers or Sparrows coming from the starry heavens above us, or the distant barking of alert watch dogs. On reaching the boats we had first to sponge out whatever water had leaked or rained into them, or perhaps to scrape off the hoar frost that had incrustated the seats overnight; then, after making sure that the guns were loaded and everything in its proper place, we pushed off and rowed briskly across the pond. As we entered the deep shadow of the trees that fringed its western shores we were likely to be greeted by a gruff but friendly salutation warning us that the particular point or beach for which we had been steering was already occupied by one or another of the young farmers living in the neighborhood. Several of these, including Jacob and Frederick Hittinger, Charles E. Chenery, Howard Richardson and the Barker brothers, were keen and persistent gunners who seldom missed a morning at the pond whenever there was any prospect of a flight of Ducks. The first comers had the choice of positions, while by common consent and for obvious reasons each man, after reaching his station, kept close in under the land until the first Ducks appeared and alighted, usually sitting motionless in his boat, his sculling oar in place and his gun within easy reach. During this period of waiting, which often lasted for half an hour or more, our fingers frequently became benumbed with cold, our feet like clods of ice, and our bodies chilled to the bone despite the thick clothing that we wore. But these minor discomforts were seldom heeded, for we were all filled with eager anticipation, and those of us who took an interest in nature were also constantly diverted and not infrequently thrilled by the sights and sounds that heralded and accompanied the on-coming of the dawn.

For a time the pond remained shrouded in gloom so deep that one could scarce trace the circles left by the rising fish or the silvery furrows that the muskrats were forever ploughing from point to point across the shallow coves. Every now and then the wailing of a Screech Owl came from some grove or

orchard in our rear, or the hoarse *quawk* of a Night Heron out of the darkness directly overhead. Invisible and for the most part nameless creatures, moving among the half-submerged reeds close to the boat, or in the grass or leaves on shore, were making all manner of mysterious and often uncanny rustling, whispering, murmuring, grating, gurgling and plashing sounds. With the first unmistakable signs of daybreak the crowing of cocks might be heard in every direction in the distance. Shortly afterwards Song and Swamp Sparrows began stirring and chirping, or even singing a little, in their grassy or leafy covers near the water's edge; Rails called among the reeds; Wilson's Snipe darted past, uttering their rasping *scaipes*; while the harsh rattle of Kingfishers and the musical *peet-weet-weet* of Spotted Sandpipers came at frequent intervals from various places along the shore. All the while the warm flush in the east had been deepening and spreading until, in this direction, the entire heavens, from the horizon to the zenith, were aglow with rose and crimson, and the calm surface of the pond shining with reflected light. Elsewhere the sky had as yet changed but little, and the water, as well as land, remained shrouded in gloom nearly or quite impenetrable to human eyes.

It was about this time, if at all, that the Ducks began to appear, sometimes singly or in pairs, frequently in bunches of from six or eight to ten or a dozen birds, occasionally in flocks containing as many as forty or fifty individuals each. Most of them were migrating birds which came, not from the neighboring ponds and marshes, but directly from the North. They were usually seen at first high in air, a clustering throng of dark specks distinctly visible as they crossed the glowing east; next, circling at lower elevations, alternately disappearing and re-appearing, as they entered and emerged from the wreaths of rose-tinted mist or the black shadows cast by the wooded portions of the shores. If, after thoroughly reconnoitering the pond, they discovered nothing to alarm them, they would alight well out towards the middle, sending up jets of flashing spray as their heavy bodies struck the smooth surface. As soon as they had fairly settled, the gunner who happened to be nearest them started out, crouching low in his boat and propelling it by a single oar, worked vigorously but noiselessly in a leathered notch or hole cut at the stern. Occasionally two or even three boats would appear at once from different points, converging as they advanced, each man straining every nerve to outdo his competitors and obtain the first shot. Some of these impromptu races were intensely exciting, not only to those who took part in them but also to the more distant and disinterested spectators. They seldom engendered any feeling other than that of friendly rivalry, for, with one or two exceptions which shall be nameless, the Fresh Pond gunners of those days were kindly, generous-hearted fellows who, moreover, were bound by unwritten but very generally followed rules and tradi-

tions which effectually prevented them from taking any really unfair or discourteous advantage of one another.

If, as was occasionally the case, the birds proved to be Black Ducks or other equally wary water-fowl, they were sure to take wing long before the nearest boat was within gun-range ; but if Ruddy Ducks, Scaups, Old-squaws or Scoters, there was ordinarily little difficulty in approaching them closely. The Ruddy Ducks were especially tame. Until shot at, they seldom dove and frequently did not fly, but on the near approach of a boat they always began swimming in the opposite direction, using their broad and powerful feet so effectively that it was not easy to overtake them, and spreading out over so wide a space that it was difficult to get more than two together or in line, although as many as three or four were occasionally killed at one shot. I have known a large flock to continue thus swimming after both barrels of a gun had been discharged into their midst, but those which had received no injury usually rose at the report and flew to some distant part of the pond. They seemed to profit little by experience, for it was often as easy to approach them a second or third time as on the first occasion. After they had been fired at repeatedly, however, they would scatter, and, when hard pressed, take to diving, at which they were almost as adroit as Grebes, disappearing with marvelous quickness and exposing only their heads on returning to the surface to breathe. If the water happened to be rough, a few sometimes escaped in this way. After a flock had been once broken up, its surviving members were never known to leave the pond until the following night, however much they might be persecuted. When, as occasionally happened, two or three good-sized flocks appeared the same morning and were successively dispersed, there was plenty of sport for every one, and the reports of the heavily charged guns, coming in quick succession from different parts of the pond, were heard at places as far distant as Harvard Square. Indeed the firing was so rapid and incessant at times as to suggest that of a brisk skirmish, but, as six or eight shots were often required to kill a single bird, the total bag was not so great as the noise indicated. In fact, it was exceptional for more than fifteen or twenty Ducks to be killed in a single morning, although I have known the number to reach forty or fifty. By no means all the flocks which appeared over the pond alighted there, and many of the birds that did alight, including some of the Ruddy Ducks, were too shy to be approached. On an average probably over half of the Ducks that actually settled in the pond were killed, and of this half the Dumb-birds represented considerably more than fifty per cent.

Most of the sportsmen who followed the early morning shooting were obliged, for one or another reason, to return to their homes before eight o'clock. The scattered birds which they left, with perhaps others that had come in later,

finding themselves no longer disturbed, and in urgent need of food, often approached the shores or entered the coves to feed among the lily pads or by diving where the water was shallow. Some of them chose times when they could do this without molestation, and others were too wary and cunning to expose themselves to any serious risks; but some one with a gun was nearly sure to be on the watch, and every now and then a bird was successfully stalked and shot. Stand shooting with decoys had ceased to be practised regularly by any one. Ruthven Deane and I tried it a few times in the autumn of 1867, but without much success, for the birds were almost invariably shot at or otherwise frightened away before we could get them within reach. At Smith's Pond, however, a considerable number of Black Ducks and other 'surface-feeding' water-fowl were taken, during this period, by a man named Frost who shot for the market over live decoys. Small flocks of Dumb-birds occasionally alighted in this pond, and I killed a Ring-necked Duck there in November, 1867.

With the shooting at Spy and the Mystic Ponds I had no personal experience, but it was reported to be quite as good as that at Fresh Pond, and to be conducted on the same general principles, that is chiefly by means of boats in which the gunners sculled out to the birds soon after the latter had alighted. All these ponds were more or less regularly and frequently visited in autumn by Pied-billed Grebes, Loons, Goosanders, Hooded Mergansers, Black Ducks, Green-winged and Blue-winged Teal, Wood Ducks, Lesser Scaup Ducks, Golden-eyes, Buffle-heads, Scoters of all three species, Ruddy Ducks, Canada Geese and Mud-hens. There were, of course, a few other kinds of water-fowl which occurred rarely or casually. Of those just named the Ruddy Ducks were everywhere shot in much greater numbers than any of the others, although during some seasons a good many Blue-winged Teal, Lesser Scaups, Buffle-heads and Old-squaws were killed. There were local traditions among the older gunners at both Fresh and Spy Ponds of the occasional appearance, in earlier times and usually during heavy northeasterly storms, of immense flocks of Scoters which, like the Dumb-birds, refused to depart after having been once scattered, and were consequently slaughtered in great numbers. Without question some of these stories were well founded, but no such visitations have ever come under my personal observation, although a few Scoters were seen in Fresh Pond nearly every autumn when I was in the habit of shooting there.

As a natural result of the constant and ever increasing persecution just described, most of the water-fowl had deserted Fresh Pond when it was taken for a city park in 1884. Since then its shores have been regularly patrolled by policemen who have kept the gunners away. The birds were not slow to note the change and to act upon it. Despite the fact that practically all their former feeding grounds had ceased to exist, they soon began returning to the pond, and

their numbers steadily increased until by the close of the past century it was not unusual for two or three hundred Ducks, and twice or thrice as many Gulls, to be assembled there at one time. The presence of so many large and conspicuous birds in a city park attracted general attention, of course. Unfortunately it also gave rise to fears that, as the pond was used as a reservoir, its waters were in danger of pollution. Soon afterwards all the birds, but especially the Gulls — although, as every ornithologist knows, most cleanly birds and of great value as scavengers — were voted a nuisance, and the park policemen were ordered to frighten them away from the pond by the use of guns loaded, as a rule (but not invariably, as I have reason to know), with blank cartridges. This practice — begun eight or ten years ago — has not been kept up very systematically, however, and whenever it is discontinued for any length of time the birds become numerous again.

Most of the Ducks which frequent the pond at the present day are Black Ducks, represented by both the red-legged and green-legged races. The former occurs only in autumn, winter and early spring, but the green-legged bird breeds in the neighboring swamps and often alights in the pond in midsummer. Besides the Black Ducks, there have been seen within recent years Canada Geese, Mallards, Green-winged Teal, Pintails, Lesser Scaups, Whistlers, Ruddy Ducks and two species of Mergansers. The Canvas-back has also been noted once, and the Redhead on several occasions. Coots (*Fulica*) occur rather commonly, and Pied-billed Grebes not infrequently, while Loons have been occasionally seen of late. Nearly all of these birds appear only in autumn, when many of them spend weeks at a time in the pond. The diving species remain there night and day during their stay, but the surface-feeding kinds such as the Black Duck, Mallard and Teal, obtain most of their food along the seacoast, to which they resort at night, returning to the pond in the early morning.

Nearly all the Gulls are Herring Gulls, but among them one may often see a few Black-backs, and rarely an Iceland or a Glaucous Gull. Like the surface-feeding Ducks, the Gulls obtain most of their food in salt water, although during their visits to the pond they pick up and devour many a dead or dying fish which would otherwise be left to pollute the water. These visits are made chiefly during the forenoon, and the birds appear most numerous when the weather is calm and mild.

THE FRESH POND SWAMPS OR FRESH POND MARSHES.

These terms have been applied indifferently or synonymously since the time of Nuttall to a wide expanse of flat, low country lying chiefly within the present limits of Cambridge, to the northward of Fresh Pond, but also extending somewhat into Arlington and Belmont. When I first came to know this region, forty years or more ago, it was beautifully diversified by wooded or bushy swamps alternating with open, grassy marshes. There were also (near its center) two isolated — and hence very conspicuous — round-topped hills. Alewife Brook was then directly connected with Fresh Pond, and its principal tributary, Little River, with Spy Pond. There were lesser channels, of sluggishly flowing water, and innumerable shallow pools and small ponds fringed by reeds or bushes and varying from a few yards to an acre or more in extent. Many of these still remain, but nearly all the woods and both the isolated hills have long since disappeared, while hundreds of houses and other buildings have sprung up on every hand close about the outskirts of the swamps. Certain of the larger marshes, such as those immediately to the north and west of the Glacialis, have not as yet been materially reduced in area, but, owing partly to their present imperfect drainage, and also as the result of fires,¹ by which they were devastated about twenty years ago, they are now almost constantly submerged and grown up very extensively to cattail flags.

In the earlier days Alewife Brook and Little River, with their numerous tributary brooks and rivulets, being free from the various obstructions which have since been permitted to choke their channels, performed their natural functions so effectively that by the middle or end of summer we frequently walked dry-shod over the extensive and now invariably flooded marshes which lie between the Glacialis and Little River, and the meadow grass which covered them was regularly cut and drawn off in hay wagons. The water in the brooks, and even in pools and ditches which had no visible outlets, although warm and muddy at times, was by no means unpalatable, and we drank it without hesitation when nothing better could be had, for the entire region was then uncontaminated by sewage or other dangerous pollution, as well as wholly free from malaria by which it has been of late so grievously afflicted.

To J. Elliot Cabot, however, the Fresh Pond Swamps seemed, at a time (1869) not long after that when I first began to frequent them, a "dreary waste

¹These fires burned for weeks, eating deep into the peaty soil, uprooting trees and bushes, and utterly destroying the meadow grasses. During the following year the devastated tract was nearly barren of vegetation, but by degrees it became covered with flags.

of brickfields, shanties, and ice-ponds." But he was fortunate enough to have known them intimately at a still earlier period when they constituted "a wilderness, encompassed to be sure on all sides by civilization, yet of indefinite extent, full of mystery, of possibilities, and invaded only by the Concord turnpike,¹ — a lonely road with a double row of pollard willows causewayed above the bog." Alewife Brook, he tells us, was then a "steady, tranquil stream — . . . curtained with stooping alders and willows — of devious course, allowing the silent paddler, cautiously peeping round the point, to surprise the black-duck or wood-duck with upstretched neck for an instant before, spurning the surface, she rushed into the air. An enchanted stream, not the dull ditch that now meets the passer-by, but broad and deep, leading to Menotomy Pond, to Mystic River, to the ends of the world! For had not 'the old Captain' passed down this way in his sail-boat to the Harbor, to Cape Cod? So, at least, it was said, and we believed it. Though how he passed the bridge at the Fresh Pond outlet? No doubt his masts unshipped, or perhaps at that day Concord turnpike was not. At this outlet, where the brook left the pond, all attractions centred. What it was then is easier imagined without seeing it now. Not merely are all the objects changed, but there is not room enough on the ground for what it then contained. Where now is a meagre bit of mangy pasture and a row of icehouses, a vast army of reeds and bulrushes and wild rice encompassed the shore, tenanted throughout the year by muskrats (for the water was deep at the edge), and at the right times by throngs of feathered visitors."²

This was before the days when Fresh Pond had begun to be drawn upon for our city water-supply,³ and Alewife Brook still received its entire overflow, as did Little River that of Menotomy (now Spy) Pond. Without doubt both streams then ran nearly or quite brimful at most seasons. Dr. Samuel Cabot told me, shortly before his death, that his brother's statement to the effect that they were once navigable by small boats was literally correct, and that he himself had often paddled through them from Fresh Pond into Menotomy (now Spy) Pond without once getting out of his canoe.

It is evident from what Mr. J. Elliot Cabot says in the passage just quoted, as well as from early maps, that the greater part of the flat and for the most part grassy tract of park land which now borders Concord Avenue on its southern side, between the Watertown Branch of the Fitchburg Railroad and the old Tudor estate, was formerly a cove of Fresh Pond, or rather, the extreme northern end of Cambridge Nook. Mr. Jacob Hittinger tells me that it was filled

¹ According to the Cambridge Directory and Almanac for 1850 the Concord Turnpike was "incorporated" in 1803. It is now called Concord Avenue.

² J. E. Cabot, *Sedge-birds*, *Atlantic Monthly*, XXIII, 1869, 384.

³ The first pumping station was begun in 1855 and finished in 1856.

with earth taken from the meadow on the opposite side of the road when the ice-pond known as the Glacialis was dug by the Tudors about 1850. It was not brought to its present smooth and level grade, however, until the Cambridge Water Board took it in hand in 1884. Up to this time it remained, as Mr. Cabot described it in 1869, a "bit of mangy pasture" where cows and goats were tethered. The made land, easily distinguishable by its rough, hillocky surface and sufficiently elevated to be reasonably dry at all seasons, was separated from the still higher and firmer ground at the eastern extremity of the Tudor estate by a rather wide belt of wet and perfectly primitive marsh. This, evidently, had once formed the western shores of the cove, and there were similar remnants of a narrower strip of marshy land which had formerly intervened between its northern shores and the Concord Turnpike.

When the turnpike was built it crossed Alewife Brook only a few yards below the outlet of the pond by means of a wooden bridge. The filling of the cove resulted, of course, in the removal of the outlet to the new shore line, about two hundred yards to the southward of the road. For more than twenty years after this, however, the brook continued to flow directly out of the pond, traversing the made land by an open but narrow ditch, and passing under Concord Avenue through a stone culvert. Just beyond this culvert the original channel,¹ broad, sinuous and overhung by large trees, skirted the western edge of the Maple Swamp, but the brook filled it only at high stages of water, being ordinarily confined to a straight, artificial trench which ran parallel to, and about forty yards from, the eastern shore of the Glacialis. To the northward of the Fitchburg Railroad embankment its course had also been narrowed and straightened to the point where it united with Little River. Although no longer the primitive and generous stream so charmingly described by Mr. Cabot, it still possessed a few reaches of great attractiveness, and carried, at least in early spring, a considerable volume of sweet, undefiled water. Through it the migratory fish from which it takes its name still passed and repassed on their way to and from the sea. In April and May, when they were running up the brook, very many of them were caught by the Irish (who had then only recently settled in the neighborhood) with dip nets or in rude weirs, and I have seen two or three hundred taken at a single cast of a small seine. They spawned in Fresh Pond, where their fry literally swarmed in autumn, attracting numbers of fish-eating birds and supplying abundant food for the numerous pickerel and other predatory fishes.

Whenever there was a course of exceptionally high tides the normally sluggish but steady flow of the brook towards the sea was replaced by a rather

¹ This channel may still be traced distinctly in several places.

strong current in the opposite direction which brought salt water from the Mystic River, sometimes in quantities sufficient to give the waters of the pond a decidedly brackish taste. It was for this reason, I believe, that a flood-gate was placed at the outlet about 1870. Three or four years later the brook was filled in all the way from the pond to Concord Avenue, just below which it received, for a time, the discharge of a city sewer. Its channel further to the northward, also, was narrowed and straightened in many places. Thus by degrees, and wholly through the intervention of man, has Alewife Brook become changed from the broad, fair stream which the Cabots knew and loved so well to the insignificant and hideous ditch, reeking with nameless filth, which now befouls the greater part of the swampy region through which it flows.

As a matter of course all these modifications in the surface conditions of the Fresh Pond Swamps and Marshes, have been accompanied or closely followed by equally marked changes in their characteristic bird life. This, however, is scarcely less rich and varied now than it was in the days of my youth. It is true that a few birds once more or less common, as the Wood Duck, the Night Heron, the Woodcock, and the Short-billed Marsh Wren, have nearly or quite disappeared; but to offset their loss the Black Duck and the Bittern, which formerly occurred only during migration, are now regularly established summer residents. There has also been a decided and indeed very considerable local increase in the numbers of the Least Bitterns, Virginia and Carolina Rails, Florida Gallinules, and Long-billed Marsh Wrens, — species which are known to have inhabited the Fresh Pond Swamps for forty years or more. Most of these changes — with others that might be mentioned — have evidently resulted chiefly if not wholly from the recent increase and dispersion of the cattail flags, which furnish food and shelter — as well as congenial nesting places — for very many swamp-loving birds.

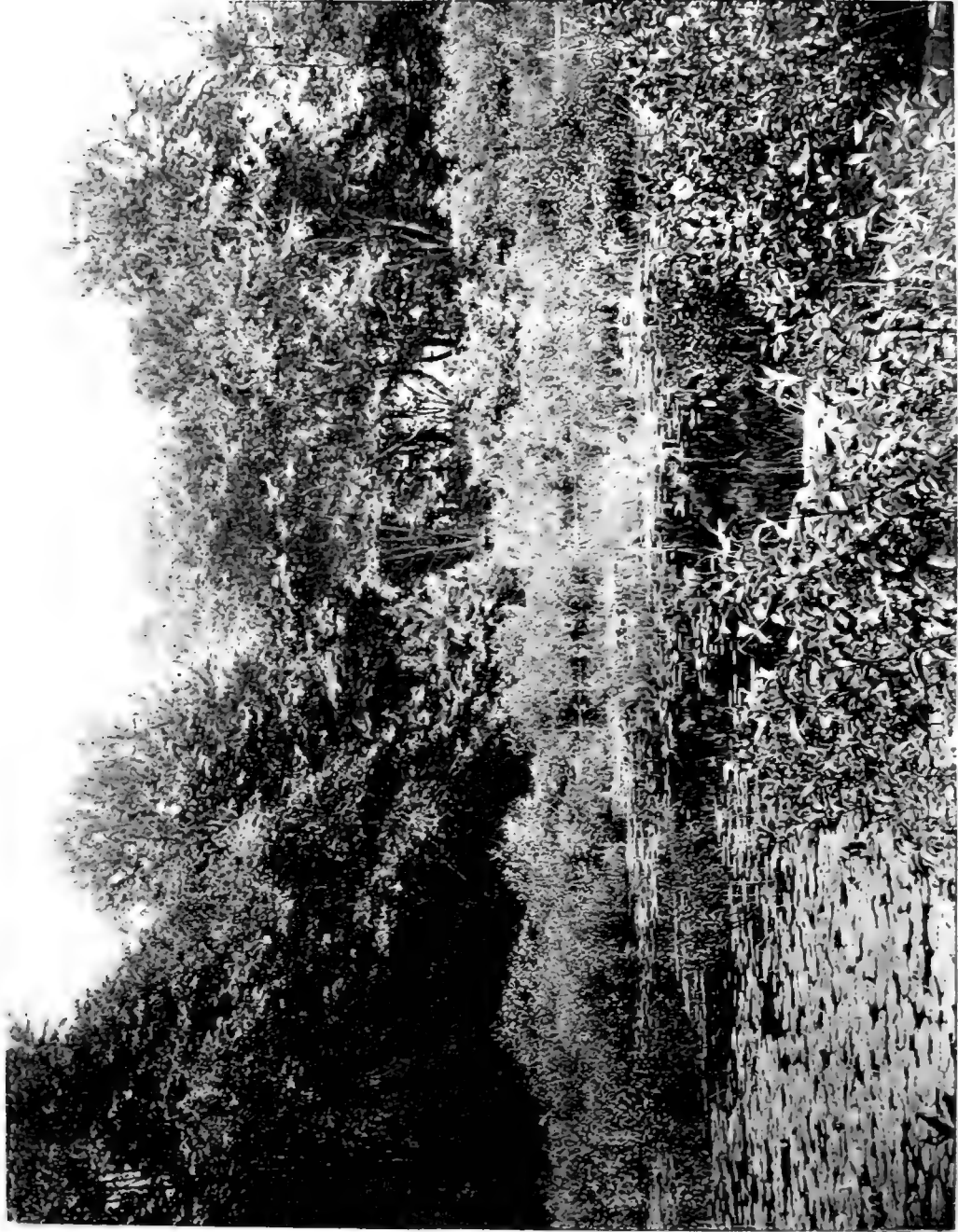
The Pine Swamp and Pout Pond.

At the southwestern extremity of the low, wet region just described, reaching almost to Fresh Pond (at the head of Black's Nook) but separated from it on the south by a high, wooded ridge, and also bounded on the east and west, as well as partially on the north, by equally elevated but more open ground — lay the Pine Swamp. Up to 1875, or a little later, it remained an essentially primitive and strikingly beautiful bit of wilderness. Nearly half the swamp was shaded by enormous white pines some of which had certainly stood for more than a century, if not, as we liked to believe, since before the settlement of Cambridge. There were also numbers of fine old oaks, beeches and yellow

birches, growing along the lower slopes of the neighboring ridge. The ground beneath the larger trees was nearly or quite free from undergrowth, but elsewhere it was very generally obstructed by tangled thickets overtopped by vigorous young red maples and gray birches. Pout Pond, then filled with sweet if somewhat muddy water, lay hidden in the innermost recesses of the swamp. Giant pines crowded close upon its eastern shores and dense second-growth woods hemmed it in on the remaining three sides. So perfectly was it sheltered by these trees, that when all of them were covered by foliage only the heaviest winds availed to ruffle its ordinarily calm and shining surface.

During the period to which I am now referring the Pine Swamp continued to afford a congenial and reasonably secure retreat for most of the larger species of birds — as well as very many of the smaller ones — which then inhabited or visited the Cambridge Region. It was frequented in autumn and winter by Hawks and Owls, in spring and summer by Night Herons and Green Herons, at all times of the year by Ruffed Grouse. Its secluded little pond was often visited by Wood Ducks and occasionally by Black Ducks and Blue-winged Teal. The Great Horned Owl has bred there at least once, and the Wood Duck repeatedly, within my recollection.

The destruction of the Pine Swamp and its immediate surroundings was accomplished between 1876 and 1884. During January and February of the former year, most of the larger trees were felled, but portions of the second-growth remained untouched for some time later. After the hills and ridges to the southward had been levelled — a work that consumed several years — the ground they had occupied was taken for a large slaughtering establishment. Besides disfiguring the locality by its unsightly buildings, it was permitted for a number of years to discharge its drainage directly into the neighboring swamps. Those immediately about Pout Pond have suffered especially from this outrage; but, although they have become not more unlovely to the eye than revolting to the sense of smell, they have been by no means deserted by the birds. The Hawks, Owls and Grouse have disappeared of course, and the Night Herons and Wood Ducks are now comparatively seldom seen; but the fetid pools which surround the pond, or the beds of rank herbaceous vegetation, by which they are bordered, are resorted to at one or another season by several species of Ducks, Bitterns of both kinds, Green Herons, Virginia and Carolina Rails, Florida Gallinules, Coots, Wilson's Snipe, Redwings, Swamp Sparrows, Maryland Yellow-throats and Marsh Wrens. The Black Duck and Florida Gallinule have even been found breeding there of late, and for ten or fifteen years past a few Redwings, Swamp Sparrows and Marsh Wrens, with an occasional Yellow-throat, have made the place a *winter*, as well as summer, home.



A SECLUDED POOL IN THE MAPLE SWAMP, CAMBRIDGE.

June 23, 1900.

The Maple Swamp.

Of the Maple Swamp we may still speak in the present tense, for it has changed but little, either in character or extent, within the period covered by my recollection. The name originated, I believe, with the Cambridge collectors of thirty years or more ago. It is usually applied to the whole of the swampy tract (embracing nearly fifty acres) which extends from Concord Avenue to the main line of the Fitchburg Railroad between the Watertown Branch Railroad and Alewife Brook. Much of this, however, is comparatively open, and either divided up into a number of small, grassy meadows, dotted with clusters of willows and separated from one another by screens of bushes, or thickly set, over considerable areas, with alders, viburnums, elders, and sapling maples, overrun by clematis and thorny with patches of briars. There are also a few small, shallow ponds, filled with white and yellow water lilies and fringed by pickerel weed, besides very many half-obliterated ditches, evidently of ancient origin. The maple woods occupy the central portions of the swamp and stretch almost uninterruptedly from its eastern to its western confines, covering two large islands lying near together and some low, wet land bordering Alewife Brook. Although chiefly composed of red maples, they also contain many swamp white oaks and tupelos as well as a few wild apples, rum cherries and gray birches. Most of the trees are forty or fifty feet in height and apparently at least half a century old.¹

The islands are nearly flat and but slightly elevated above the surrounding surface, yet they are never flooded and their rich soil, although moist at every season, is nowhere soft or boggy. It sustains, in addition to the taller trees, a dense growth of underbrush through which well-trodden foot-paths lead in every direction. The thickets which they penetrate are glorified in spring by the snowy blossoms of the shad-bush, filled in summer with the almost oppressive perfume of the clethra and white azalea, glowing in autumn and winter with the scarlet berries of the black alder. They also abound in viburnums, andromedas and high-blueberry bushes. The wetter portions of the woods are comparatively open underneath, especially near Alewife Brook where there are wide spaces practically barren of lower vegetation save in late summer and early autumn when they are concealed beneath a profusion of rank herbaceous plants. Of these the most flourishing and conspicuous is the touch-me-not (*Impatiens biflora*) which forms extensive beds in many places. The deadly nightshade also

¹ Since the above passage was written, very many of the larger trees in the Maple Swamp have been cut down.

grows here abundantly and the turtle head (*Chelone glabra*) very commonly. Our local observers of the present younger generations do not appear to visit the Maple Swamp very frequently, but from 1871 to 1885 it was regarded as the best collecting ground to be found anywhere in the immediate neighborhood of Cambridge. During this period it attracted — especially in early autumn — a great number and variety of the smaller migratory birds, among which was the Connecticut Warbler, then but little known. It was also a favorite roosting place of the Night Heron, and the Green Heron continues to nest there.

The Brickyard Swamp.

As one approaches Fresh Pond from Cambridge by way of Concord Avenue, he will notice, on the right hand side of this road, in the rear of a row of squalid tenement houses, a wide open space stretching northward along the Watertown Branch Railroad to the main line of the Fitchburg Railroad. A considerable part of this has been roughly graded for streets and house-lots, the remaining portion (to the northward) being occupied by an immense clay-pit. The entire area was formerly known as the Brickyard Swamp. When I first became acquainted with this swamp in 1860 or 1861, it covered upwards of fifty acres. Along its northern and eastern edges stretched the brickyards, two or three in number,¹ from which it took its name. They had then only begun the stupendous work of excavation, now all but completed. When the steam-shovels were scooping up the surface soil to get at the deep bed of pure clay which lay just beneath, they removed many large stumps of white pines which still showed the marks of axes, wielded, no doubt, in early Colonial days when the place formed the extreme eastern end of what was known as the Great Swamp. The only trees that had been left standing down to my time, however, were some oaks, maples and gray birches which covered a tract of slightly elevated ground, less than an acre in extent, where we used to start Woodcock in summer. Elsewhere the swamp was perfectly level and subject to inundation in early spring. It contained a bewildering number of small, shallow ponds and deep, wide ditches, which made it seemingly difficult of access, but there were obscure and miry foot-paths, familiarly known to sportsmen and nest-hunting boys, by which it could be traversed in every direction with comparative ease and safety. Some of the ponds were irregular in shape and apparently of natural origin, but by far the greater number occupied

¹ According to the Cambridge Directory and Almanac for 1850 there was then but one brickyard in this part of Cambridge — that of "Hubbel and Co., Fresh Pond railroad."

long, narrow and perfectly rectangular pits, dug, as I am assured by my venerable neighbor, Mr. Royal Stimpson, about the middle of the last century to obtain the rich meadow peat which was spread over certain of the farm lands along Vassall Lane. Before I came to know these pools, however, nature had done much to obliterate the traces of their artificial character, for most of them had become choked with aquatic vegetation and bordered by tall reeds, cattail flags, sweet gale, briars (*Rosa nitida*), button-bushes, alders, viburnums and other moisture-loving plants. They were visited at one or another season by Pied-billed Grebes, Black Ducks, Green-winged and Blue-winged Teal, Wood Ducks, Bitterns, Least Bitterns, Green Herons, Night Herons, Rails, Gallinules and Mud-hens. Interspersed among them, and also surrounded by bushes, were grassy openings where Wilson's Snipe occurred numerously at times, and where Carolina Rails and Swamp Sparrows nested. Virginia Rails bred throughout the thickets, which were also tenanted in summer by very many Red-winged Blackbirds, Song Sparrows, Yellow Warblers and Maryland Yellow-throats. At the eastern edge of the swamp a few pairs of Long-billed Marsh Wrens had established a colony as early as 1868.

Muskrat Pond.

Muskrat Pond lay on the opposite side of Concord Avenue, near the foot of Vassall Lane and less than one hundred yards from the eastern end of Cambridge Nook. It was a pretty little pool, not unlike some of those in the Brickyard Swamp, but larger than any of them and very much deeper. As its name indicates, it abounded in muskrats, who built their conical houses all about its quaking, treacherous margin. It also attracted a few water-fowl, especially Teal and Mud-hens. Here it was that I shot my first Duck — a Pintail — in 1863 or 1864, and here Ruthven Deane and I found several Florida Gallinules — two of which we killed — in the autumn of 1868. There was a wide stretch of boggy meadow just to the eastward, where Snipe and Yellow-legs alighted at times, and where Carolina Rails were accustomed to breed. Both pond and meadow have long since disappeared, and in their place yawns a deep and unsightly clay-pit.

The Glacialis or Artificial.

The little sheet of water formerly known as the Glacialis, but now oftener called the Artificial (the word pond is seldom or never used with either term), lies just across Alewife Brook from the Maple Swamp. Concord Avenue passes

within a few rods of it on the south, and its northern extremity reaches almost to the main line of the Fitchburg Railroad. It covers a total area of some six or seven acres and is nowhere more than five or six feet in depth. The Tudor Ice Company dug it about 1850. For years afterwards, and indeed up to within my own recollection, it remained nearly rectangular in shape, with straight grassy banks. But the shore lines have since become indented with little coves, — formed by the wash of the water or by the undermining of successive generations of muskrats, — and some of the shallower portions of the pond, especially at its northern extremity, have grown up to cattail flags. Although, as its projectors foresaw would be the case, the Glacialis freezes over nearly a month earlier than Fresh Pond, its numerous bottom springs prevent the ice from ever attaining sufficient thickness to be of much commercial value. For this reason the money expended on its construction and on that of the large icehouses which stood for many years near its northern end, has yielded no returns to the original investors. Their enterprise, nevertheless, has not been without benefit to others. Hundreds, if not thousands, of Cambridge boys (among whom may be numbered the present writer and most of the friends of his youth) first learned to swim in the shallow tepid waters of the Glacialis, and it has long afforded a safe and convenient resort for skaters of both sexes and all ages. It is visited — although less frequently now than formerly — by various kinds of water-fowl, especially Pied-billed Grebes, Teal and Coots (*Fulica*). Long-billed Marsh Wrens and two species of Bitterns breed in its beds of cattail flags, while Virginia and Carolina Rails, Red-winged Blackbirds and Swamp Sparrows are found commonly throughout the summer in the marshes which border it on the west and north.

Beech Island or Block Island.

This was a 'marsh island,' two or three acres in extent, lying to the north of the Pine Swamp near the south bank of Little River. Most of it was high ground, and its center was occupied by a long, narrow ridge evidently of glacial origin. As the 'island' was everywhere heavily wooded, and in places elevated fifty feet or more above the surrounding marshes, it formed a prominent and very pleasing feature of the otherwise flat and somewhat monotonous landscape. The woods, which harbored Ruffed Grouse and Quail in autumn and squirrels (including a few 'grays') at nearly every season, were made up wholly of deciduous trees and very largely of fine, spreading beeches that must have been upwards of one hundred years old. The entire ridge was taken for filling material when the road-bed of the Massachusetts Central Railroad was built across the Fresh Pond Swamps, in 1877, if I remember rightly.

GREAT MEADOW, EAST LEXINGTON.

In 1872 the town of Arlington made a reservoir at East Lexington by throwing a dam across Vine Brook at the point where it issues from Great Meadow. As the rich, surface soil of the meadow was left undisturbed, and as the water was nowhere raised to a depth exceeding five or six feet, the pond thus formed soon became choked with aquatic vegetation, while over considerably more than one half of its total area (about twenty-five or thirty acres) button-bushes and sweet gale sprang up in dense thickets, separated in many places, however, by pools or channels of open water. There were also floating islands, tufted with sedges or with cattail flags, and, along the course of the brook above, wide stretches of grassy meadow. A railroad passed close to the pond on the south, but the slopes of the hills which bordered it on the north and west were everywhere thickly wooded.

In view of these conditions it is not to be wondered at that Great Meadow attracted at one or another season very many such birds as Snipe, Sandpipers, Rails, Herons, Bitterns, Coots, Gallinules, Grebes and Ducks of various kinds. The Pied-billed Grebes maintained a breeding colony there for at least ten successive seasons, and the Black Duck has been known to nest in the immediate neighborhood. I write of these matters in the past tense, because the reservoir was discontinued in 1900 and the pond was drained in 1902.

ROCK MEADOW.

This fine, large meadow, upwards of one hundred acres in extent, has changed but little, either in character or surroundings, within the past thirty or forty years. It lies partly in Belmont and Waltham, but chiefly in the southeastern corner of Lexington, near the source of Beaver Brook. Although for the most part open and grassy, it contains many swampy thickets, several tracts of low-lying maple woods and a few wooded ridges and 'marsh islands.' The Concord Turnpike crosses it from east to west on an ancient causeway bordered by pollarded willows. Through the long and alluring vista formed by the trunks and overarching branches of these fine old trees one may walk or drive in cool and unbroken shade during the hottest June day, listening to the songs of Bobolinks, Red-winged Blackbirds, Swamp Sparrows, Yellow Warblers, Maryland Yellow-throats, Catbirds and other marsh- or thicket-loving birds. Among the

more interesting species which have been found breeding here within comparatively recent years are the Black Duck, the Bittern, the Marsh Hawk, the White-eyed Vireo and the Short-billed Marsh Wren. At the height of the migration in May the willows along the causeway attract a large number and variety of northern-bound Warblers of which the Black-poll, Black and Yellow, Yellow-rump, Canadian and Wilson's Blackcap, with the Northern Water-thrush, occur most regularly and frequently. As the meadow is also bordered on every side by sparsely populated country, abounding in woods, thickets, cedar pastures and grassy fields, it offers to the bird lover one of the most attractive and interesting resorts to be found anywhere, at the present time, within easy reach of Cambridge.

BEAVER BROOK RESERVATION AND WAVERLEY OAKS.

If one follows the course of Beaver Brook from the lower end of Rock Meadow to the railroad just beyond the village of Waverley, he will pass two small ponds separated by an ancient dam which within my recollection was surmounted by an old grist mill. From the lower pond the brook escapes over another dam, and after plunging down a nearly vertical ledge, in a succession of falls, well worth seeing when the water is high, it winds through a deep, wooded ravine before crossing the road on its way to the Waverley Oaks. The oaks, the ravine, the waterfall and the two ponds are all included in what is now known as the Beaver Brook Reservation. This small but exceedingly attractive public park was planned and developed by the late Charles Eliot. It forms a fitting monument to his genius as a landscape architect. His rare good taste and wise forbearance in dealing with naturally beautiful scenery are especially shown by his treatment of the western shores of the ponds and the wooded gorge below the waterfall, where practically nothing has been disturbed. Even the severe trimming of the Waverley Oaks, which caused some adverse criticism at the time, has been justified by the subsequent improvement, in respect to vigor and symmetry, in these noble old trees. It has been difficult for some of us to comprehend, however, why Mr. Eliot should have considered it desirable to remove the picturesque, rocky island which formerly adorned the upper mill-pond.

The Beaver Brook Reservation has always been a favorite haunt for birds. Its woods and thickets continue to be visited by a number of interesting species,

including the Golden-winged and Nashville Warblers; but the Wood Ducks that used to breed in the Waverley Oaks, the Woodcock that formerly haunted the course of the brook so numerously in spring and summer, the White-eyed Vireos which I have found nesting near the shores of the upper pond, and the Olive-sided Flycatchers whose clear, wild notes once mingled with the sound of the waterfall, have all, I fear, departed never to return.

THE WREN ORCHARD.

This name originated, I believe, in the fertile brain of my friend, Mr. Frank Bolles, who during the latter years of his brief life, when he was devoting himself especially to nature studies and charming us all with his forceful, sympathetic, and altogether delightful essays relating thereto, was much given to frequenting the old orchard and its immediate surroundings. It is wholly composed of venerable apple trees which cover two or three acres of sloping ground lying just to the southeastward of Arlington Heights and about midway between Prospect Street, Belmont, and Spring Street, Arlington. When I visited it last, two or three summers ago, it had not changed greatly in general character or appearance since I first saw it in 1867. Even at that now remote time most of the trees were far advanced in decay. Owing partly to this fact, and partly also to its remoteness from frequented highways and its proximity to extensive woods, the Wren Orchard has long furnished congenial breeding places for such hole-nesting species as the Screech Owl, the Downy Woodpecker, the Flicker, the House Wren, the Chickadee and the Bluebird, while I have known the locally rare Crested Flycatcher to be found there in summer.

STATUS OF OCCURRENCE.

In the following lists the birds of the Cambridge Region have been grouped in classes to show, as nearly as possible, the character or status of their occurrence at the present time. These classes include:—

Permanent residents. ¹	Occasional or accidental visitors.
Summer residents.	Introduced species.
Winter residents.	Extinct species.
Spring and autumn migrants.	Expunged or doubtful species
Autumn migrants.	

s. r. equals summer resident; w. r., winter resident; s. m., spring migrant. Any of these signs following a name indicates that the bird in question has also more or less claim to be included in the class thus referred to, as well as in that in which it is named.

Permanent Residents.

Bob-white.	American Crow.
Ruffed Grouse.	Meadowlark.
Red-shouldered Hawk.	Purple Finch.
American Sparrow Hawk.	American Crossbill.
American Long-eared Owl.	American Goldfinch.
Barred Owl.	Cedar Waxwing.
Screech Owl.	White-breasted Nuthatch.
Downy Woodpecker.	Chickadee.
Northern Flicker.	American Robin.
Blue Jay.	

¹ This includes species which, although not always continuously present throughout the year, may occur at any season.

Summer Residents.

- | | |
|----------------------------------|-------------------------------|
| Black Duck. | Swamp Sparrow, w. r. |
| American Bittern. | Towhee, possibly w. r. |
| Least Bittern. | Rose-breasted Grosbeak. |
| Green Heron. | Indigo Bunting. |
| Virginia Rail. | Scarlet Tanager. |
| Sora. | Purple Martin. |
| Florida Gallinule. | Cliff Swallow. |
| American Woodcock. | Barn Swallow. |
| Spotted Sandpiper. | Tree Swallow. |
| Cooper's Hawk, w. r. | Bank Swallow. |
| Yellow-billed Cuckoo. | Red-eyed Vireo. |
| Black-billed Cuckoo. | Warbling Vireo. |
| Belted Kingfisher, w. r. | Yellow-throated Vireo. |
| Whip-poor-will. | White-eyed Vireo. |
| Chimney Swift. | Black and White Warbler. |
| Ruby-throated Hummingbird. | Golden-winged Warbler. |
| Kingbird. | Nashville Warbler. |
| Crested Flycatcher. | Yellow Warbler. |
| Phoebe. | Chestnut-sided Warbler. |
| Wood Pewee. | Black-throated Green Warbler. |
| Least Flycatcher. | Pine Warbler, w. r. |
| Bobolink. | Prairie Warbler. |
| Cowbird, w. r. | Oven-bird, w. r. |
| Red-winged Blackbird, w. r. | Northern Yellow-throat, w. r. |
| Orchard Oriole. | Yellow-breasted Chat. |
| Baltimore Oriole. | American Redstart. |
| Purple Grackle. | Catbird, w. r. |
| Bronzed Grackle, w. r. | Brown Thrasher, w. r. |
| Vesper Sparrow. | House Wren. |
| Grasshopper Sparrow. | Short-billed Marsh Wren. |
| Henslow's Sparrow. | Long-billed Marsh Wren, w. r. |
| Sharp-tailed Sparrow (formerly). | Wood Thrush. |
| Chipping Sparrow. | Wilson's Thrush. |
| Field Sparrow, w. r. | Bluebird, w. r. |
| Song Sparrow, w. r. | |

Winter Residents.

Great Black-backed Gull.	Redpoll.
Herring Gull.	Greater Redpoll.
Red-legged Black Duck.	Pine Siskin, s. r.
American Golden-eye.	Snowflake.
Red-tailed Hawk, possibly s. r.	Tree Sparrow.
Saw-whet Owl.	Slate-colored Junco.
Hairy Woodpecker, possibly s. r.	Northern Shrike.
Horned Lark.	Brown Creeper, s. r.
Pine Grosbeak.	Red-breasted Nuthatch, s. r.
White-winged Crossbill.	Golden-crowned Kinglet.

Spring and Autumn Migrants.

Horned Grebe.	Short-eared Owl, w. r.
Pied-billed Grebe, s. r.	Yellow-bellied Sapsucker, w. r.
Loon.	Nighthawk, s. r.
Green-winged Teal.	Olive-sided Flycatcher, s. r.
Blue-winged Teal.	Yellow-bellied Flycatcher.
Wood Duck, s. r.	Alder Flycatcher, s. r.
Lesser Scaup Duck.	Rusty Blackbird, w. r.
Ruddy Duck.	Savanna Sparrow, s. r.
Canada Goose.	White-crowned Sparrow.
Great Blue Heron, w. r.	White-throated Sparrow, w. r.
Black-crowned Night Heron, s. r. and w. r.	Lincoln's Sparrow.
American Coot.	Fox Sparrow, w. r.
Wilson's Snipe.	Blue-headed Vireo, s. r.
Least Sandpiper.	Northern Parula Warbler.
Greater Yellow-legs.	Cape May Warbler.
Solitary Sandpiper.	Black-throated Blue Warbler.
Bartramian Sandpiper.	Myrtle Warbler, w. r.
Marsh Hawk, s. r.	Magnolia Warbler.
Sharp-shinned Hawk, s. r. and w. r.	Bay-breasted Warbler.
Broad-winged Hawk, s. r.	Black-poll Warbler.
American Rough-legged Hawk.	Blackburnian Warbler, s. r.
Pigeon Hawk, w. r.	Yellow Palm Warbler.
American Osprey.	Water-thrush.

Mourning Warbler.	Ruby-crowned Kinglet.
Wilson's Warbler.	Gray-checked Thrush.
Canadian Warbler, s. r.	Bicknell's Thrush.
American Pipit.	Olive-backed Thrush.
Winter Wren, w. r.	Hermit Thrush, s. r. and w. r.

Autumn Migrants.

Hooded Merganser.	Yellow-legs, s. m.
Mallard.	Semipalmated Plover, s. m.
Buffle-head.	Nelson's Sparrow.
Old-squaw.	Acadian Sharp-tailed Sparrow, s. m.
American Scoter.	Orange-crowned Warbler.
White-winged Scoter.	Palm Warbler.
Pectoral Sandpiper.	Connecticut Warbler.
Semipalmated Sandpiper.	

Occasional or Accidental Visitors.

Holboëll's Grebe.	King Eider.
Red-throated Loon.	Surf Scoter.
Brünnich's Murre.	Whistling Swan.
Dovekie.	Glossy Ibis.
Glaucous Gull.	Little Blue Heron.
Iceland Gull.	Yellow-crowned Night Heron.
Bonaparte's Gull.	Yellow Rail.
Common Tern.	Red Phalarope.
Leach's Petrel.	Northern Phalarope.
Double-crested Cormorant.	Purple Sandpiper.
American Merganser.	Red-backed Sandpiper.
Red-breasted Merganser.	Sanderling.
Baldpate.	Hudsonian Godwit.
Shoveller.	Killdeer, s. r.
Pintail.	Passenger Pigeon.
Redhead.	Mourning Dove.
Canvas-back.	Turkey Vulture.
Ring-necked Duck.	American Goshawk.

Golden Eagle.	Holböll's Redpoll.
Bald Eagle.	Lapland Longspur.
Duck Hawk.	Ipswich Sparrow.
Great Gray Owl.	Brewer's Sparrow.
Richardson's Owl.	Shufeldt's Junco.
Great Horned Owl.	Cardinal.
Arctic Horned Owl.	Dickcissel.
Snowy Owl.	Summer Tanager.
American Hawk Owl.	Migrant Shrike.
Arctic Three-toed Woodpecker.	Philadelphia Vireo.
Red-headed Woodpecker, s. r.	Worm-eating Warbler.
Prairie Horned Lark.	Tennessee Warbler.
Canada Jay.	Audubon's Warbler.
Fish Crow.	Mockingbird, s. r.
Yellow-headed Blackbird.	Carolina Wren.
Hoary Redpoll.	Hudsonian Chickadee.

Introduced Species.

Prairie Hen.	House Sparrow.
Ring-necked Pheasant.	European Siskin.
Skylark.	European Goldfinch.

Extinct Species.

Heath Hen.	Wild Turkey.
------------	--------------

Expunged or Doubtful Species.

Labrador Duck.	Northern Raven.
Lesser Snow Goose.	Boat-tailed Grackle.
Greater Snow Goose.	Evening Grosbeak.
Whooping Crane.	Brewster's Linnet.
Little Brown Crane.	Painted Bunting.
Sandhill Crane.	Rough-winged Swallow.
Black Rail.	Bohemian Waxwing.
Cooper's Henhawk.	Blue-winged Warbler.
Red-naped Sapsucker.	Hooded Warbler.
Linné's Hummingbird.	

As might be expected, the common summer birds of the Cambridge Region, almost without exception, belong to species which breed more or less generally throughout the Transition Life Zone. Of the rarer summer birds the Acadian Owl, Olive-sided Flycatcher, Alder Flycatcher, Pine Linnet, Solitary Vireo, Blackburnian Warbler, Canadian Warbler, Brown Creeper, Red-bellied Nuthatch, and Hermit Thrush, belong more properly to the Canadian and Lower Canadian Zones, and the Least Bittern, Florida Gallinule, Orchard Oriole, Cardinal Grosbeak, Black-throated Bunting, Yellow-breasted Chat, Mockingbird, and Carolina Wren, to the Upper Austral Zone. Most of the birds included in the latter class appear to confine their visits to the eastern portions of the region, where the country is low and bordering on tide-water, while of the Canadian or Lower Canadian forms the Alder Flycatcher, Blackburnian Warbler, Canadian Warbler, Red-bellied Nuthatch and Hermit Thrush have been found in summer only in the hilly central or western portions. The Olive-sided Flycatcher and Pine Linnet, however, are known to have bred within the present limits of the City of Cambridge, and the Solitary Vireo and Brown Creeper have been seen there in early summer.

It is a well-established fact that a large proportion of the smaller migratory birds, which pass and repass through eastern Massachusetts on their way to and from more northern breeding stations, follow lines of flight which border closely on the seacoast. Lying, as it does, very near the coast, the Cambridge Region (especially throughout its more eastern portions) is much better supplied with bird life in spring and autumn than are localities further inland. In May, when the heaviest flights are passing northward, and in late August and early September, when the return movement is at its height, our woods and thickets are tenanted, often for days in succession, by a fairly bewildering number and variety of Warblers, Sparrows and other small 'birds of passage,' as they used to be called. Of these transient visitors the Lincoln's Sparrow, Orange-crowned Warbler and Connecticut Warbler are especially interesting for the reason that they have been found more numerous and regularly in and about Cambridge than elsewhere in eastern Massachusetts.

In winter, also, our region is especially favored by the smaller birds. Besides the species regularly found at that season throughout most of the State, such as the Quail, Ruffed Grouse, Red-shouldered Hawk, Screech Owl, Hairy Woodpecker, Downy Woodpecker, Blue Jay, Crow, Goldfinch, Snow Bunting, Tree Sparrow, Junco, Brown Creeper, White-breasted Nuthatch, Chickadee and Golden-crowned Kinglet, we are nearly sure to note those irregular visitors, the Pine Grosbeak, the two kinds of Crossbills, and the several forms of Redpolls, whenever they invade any part of eastern Massachusetts. Of the species which winter chiefly near the coast or only in places where food is particularly abundant,

as the Flicker, Meadowlark, Purple Finch, Song Sparrow, Cedarbird and Robin, the Cambridge Region attracts decidedly more than an average share, at least as compared with localities of similar character and extent lying further inland in the same latitude. Within recent years, moreover, the Red-winged Blackbird, White-throated Sparrow, Swamp Sparrow, and Long-billed Marsh Wren — species which apparently leave most other parts of southern New England before the advent of cold weather — have been found repeatedly in midwinter in or near the Fresh Pond Swamps.

There are occasional winters, however, when the Cambridge Region — as well as eastern Massachusetts generally — is practically barren of bird life. According to my personal experience this is quite as likely to happen during unusually mild as exceptionally severe seasons. The weather, indeed, has apparently little to do with the matter, the condition of the food supply being obviously the chief if not sole determining factor. Whenever our cedar woods and groves are well supplied with berries they are sure to be frequented — at least soon after the close of January — by great numbers of Cedarbirds and Robins. Pine Grosbeaks and Purple Finches are also very fond of these berries, and I have known Quail to subsist on them for weeks at a time when the ground has been deeply covered with snow. The crop of weed seeds was once of great importance to most of our native fringilline birds, but in the neighborhood of towns and cities, as well as about many of the outlying farms, it is now garnered by the House Sparrows before the northern-breeding Finches, such as the Snow Bunting, Tree Sparrow and Junco, arrive. It is chiefly for this reason, I believe, that these birds winter with us less numerously than formerly, and for the same reason, no doubt, the Cambridge Region is becoming less and less attractive to the hordes of Tree Sparrows, Juncos, Song Sparrows, and Fox Sparrows which traverse it on their way northward in early spring and during the return journey in late autumn.

Owing partly, without doubt, to its proximity to the seacoast, but perhaps even more largely to its generous supply of ponds, rivers, and marshes, the eastern extremity of the Cambridge Region attracts a considerable number and variety of wading and swimming birds. Most of them belong to species which have either little or no liking for the sea — such as the Pied-billed Grebe, Goosander, the Hooded Merganser, the surface-feeding Ducks (exclusive of the Black Duck), the Ruddy Duck, Mud-hen, Wilson's Snipe, and Solitary Sandpiper, — or which are more or less equally at home in or about both salt and fresh water — as the Horned Grebe, Loon, Black Duck, Lesser Scaup, Whistler, Buffle-head, Oldsquaw, the three species of Scoters, the Spotted Sandpiper, and several of the northern-breeding Sandpipers and Plover. Of the sea birds and waders which are exclusively maritime by choice, and seldom seen inland at any season, our

list furnishes only a very few really good examples, among which may be named the Brünnich's Murre, Little Auk, Leach's Petrel, and Purple Sandpiper. No one of these species visits us regularly or frequently, although all of them are reasonably common along the neighboring seacoast. The list also includes two passerine birds which are very strictly confined to localities bordering on the coast, viz., the Ipswich Sparrow, which has been taken once in the Fresh Pond Marshes, and the Sharp-tailed Finch, which used to breed in the Cambridgeport Marshes.

FAUNAL CHANGES.

Some of the principal changes which have taken place in the fauna of the Cambridge Region during the past thirty or forty years relate to (1) Birds whose local increase may be attributed to changes in local conditions ;— as the Bittern, Green Heron, Rose-breasted Grosbeak, Redstart and Long-billed Marsh Wren. (2) Birds whose local increase is evidently due to recent local protection ;— as the Herring Gull, Black Duck, Whistler and Crow. (3) Birds whose local decrease is apparently due chiefly, if not wholly, to changes in local conditions ;— as the Chimney Swift, Bobolink, Meadowlark, Barn Swallow, Bank Swallow and Pine Warbler. (4) Birds whose local decrease is probably due chiefly to persecution by the House Sparrows ;— as the Least Flycatcher, Purple Finch, Song Sparrow, Indigo-bird, Tree Swallow, House Wren and Blue-bird. (5) Birds whose decrease, and, in a few instances, total disappearance, has been not only local but general throughout New England, and evidently due chiefly or wholly to systematic persecution on the part of man ;— as the Hooded Merganser, Green-winged Teal, Blue-winged Teal, Wood Duck, Woodcock, Lesser Yellow-legs, Upland Plover, Quail, Ruffed Grouse, Wild Turkey, Wild Pigeon, Red-tailed Hawk and Great Horned Owl.

For convenience of further consideration certain of the birds which have occurred in summer, either within or very near the Cambridge Region, may be grouped as follows :—

(1) Breeding regularly, but only sparingly and locally : Least Bittern, Florida Gallinule, Alder Flycatcher, Solitary Vireo, Blackburnian Warbler, Yellow-breasted Chat, Canadian Warbler, Brown Creeper, Hermit Thrush.

(2) Breeding irregularly and rarely : Saw-whet Owl, Pine Linnet, Cardinal, Mockingbird, Carolina Wren, Red-bellied Nuthatch.

(3) Breeding rather commonly, but apparently only very locally, for one or more seasons which have been followed by periods of total absence: Olive-sided Flycatcher, Orchard Oriole, Black-throated Bunting.

It is by no means certain that all the birds included in the first of these three classes have been long established as summer residents, or that they will continue to be so. Indeed there are reasons for believing that one or two of them did not occur at all in summer thirty or forty years ago. No one of them is generally distributed, and most of them occupy stations of limited extent more or less remote from the favorite breeding ranges of their respective species. Most of the birds placed in the second class appear to be of highly irregular occurrence, although two of them — the Mockingbird and Cardinal — have been noted rather frequently during the past few years.

With respect to birds such as those named in the third class, as well as to some of those included in the first and second classes, an interesting question arises, viz., why, after having bred rather commonly or even numerously in the Cambridge Region, during one or more periods of apparently brief duration, — as the Orchard Oriole and Black-throated Bunting are known to have done, — or not uncommonly for a number of successive years, — as is illustrated by the case of the Olive-sided Flycatcher, — should they have nearly or quite deserted this region? So far as we know, they were not subjected to any general or very serious molestation while with us, nor were their haunts materially changed until after they had departed. What, then, could have led to their withdrawal? I can answer this question only by suggesting a theory which is based largely on established facts, but partly, as I am free to admit, on pure assumptions.

Many if not most birds show a marked preference for breeding in certain regions, throughout which they are more or less evenly and generally distributed, but within which their numbers do not seem to increase beyond fixed maximum limits no matter how carefully the birds may be protected or how successful they may be in rearing young. It has been assumed that these limits are determined by the food supply. This no doubt is an important factor at certain seasons and in certain localities, with birds which subsist largely on seeds and fruit, for food of this kind is seldom inexhaustible. But that insect-eating birds often exhaust the supply of insects, especially in summer and in regions largely under cultivation, I find it difficult to believe. I have observed — as, indeed, who has not! — that few birds — excepting those which, like the Swallows, Terns, Herons and Gulls, are accustomed to nest in colonies — tolerate very near neighbors of their own species during the season of reproduction. At its beginning each pair takes possession of a definite tract of woodland, orchard, swamp or meadow, which the male is ever on the alert to defend against trespassers of his own kind

and sex, although he often seems quite willing to share his domain with birds of other and perhaps closely related species. The extent of the area thus monopolized varies exceedingly with birds of different species. An apple orchard which affords sufficient room for — let us say — two pairs of Yellow Warblers, two pairs of Orioles, three or four pairs of Chippies and four or five pairs of Robins, seldom or never harbors more than a single pair of Kingbirds or Crested Flycatchers.

I know a tract of woods which has been regularly frequented for many years by a pair of Great Horned Owls and a pair of Hairy Woodpeckers. They usually rear their broods, but the number of breeding birds remains always the same. Apparently there is not room for more than a pair of each kind, although the woods exceed one hundred acres in extent. What becomes of the young? As I do not often find them in neighboring woods, I have little doubt that they remove to considerable distances to breed — perhaps sometimes as far as twenty or thirty miles. Such birds as the Golden Eagle and Duck Hawk require even more 'elbow room' when breeding. As a rule the species which roam over the most ground in the course of their daily wanderings claim and maintain the broadest preserves, while those of sedentary habits often content themselves with very modest freeholds. Whatever the extent of the domain, the birds who occupy it as a summer home evidently regard it as exclusively their own. The readiness and celerity with which trespassing birds are accustomed to retire when attacked or even merely threatened by the established tenants, has seemed to me to indicate that the claims of the latter to temporary ownership are recognized and respected by all right-minded birds. It is probable, also, that with birds, as with human beings, the simple fact of possession counts nine points in the law. In my opinion the desire for exclusive possession so conspicuously shown by the male, and often by him alone, is usually the direct result of *sexual jealousy*. This, as is natural, makes him intolerant, during the breeding season, of the near presence of rival males. If his concern were chiefly in respect to the food supply, it would be equally manifested at every season and towards all birds who subsist on the same food that he and his mate require — which is certainly not the case.

What I have just said has made it plain, I trust, that, from the view point of the birds, a locality or region may be fully populated by them, when to us it seems but sparsely tenanted. Whenever it becomes overpopulated, the surplus birds (usually the younger or weaker ones, no doubt) are evidently driven from their natal haunts and forced to seek freeholds elsewhere. In other words there is an overflow to regions or localities more or less distant. As the waters of a pond or river return to their natural bed or channel when, after a period of flood, their volume is reduced within normal limits, so, it may be

assumed, do exiled birds return to their favorite summer ranges when a period of congestion there is succeeded by one of temporary scarcity. In February, 1895, immense numbers of northern-breeding Bluebirds perished from cold and starvation while at their winter homes in the South. It is probable that the loss represented fully eighty per cent of the total numbers of the species. When the survivors came north the next spring they did not spread out evenly over all the region usually inhabited by Bluebirds; on the contrary they occupied only what were evidently in their eyes its choicest portions. In some areas they were as numerous as ever that first season; in others only a few were seen; in still others of great extent they were wholly absent. The rapidity with which they increased at the stations chosen, and from them repopulated their former haunts, was simply astonishing. Indeed by the end of the next six or seven years they were as numerous and generally distributed as ever. It is probable that Bluebirds, as well as Robins, usually maintain their numbers at near the maximum limits, for they are exceptionally prolific and hardy birds.

I have said that exiled birds return to their favorite summer haunts whenever the congestion there is ended. It is probable, however, that this rule is not without exceptions. Indeed there are good reasons for believing that when the exiles form new colonies in localities or regions which prove well suited to their tastes, they sometimes occupy them permanently. From such outlying stations there are also, no doubt, occasional overflows into neighboring and perhaps less congenial territory. Thus the scattered pairs of Yellow-breasted Chats which, from time to time, have been found breeding in the Cambridge Region, have probably come from the long established and formerly flourishing but isolated colonies in Lynn and Swampscott.

At the time when the Black-throated Buntings invaded eastern Massachusetts in numbers, they bred regularly and abundantly in the Middle States, from which, doubtless, they spread northward, but throughout which they have since practically disappeared, although they are still numerous enough in certain parts of the Mississippi Valley. I believe that they were originally confined to the treeless portions of this valley and that they did not extend their range eastward until the heavy forests of the Ohio Valley and the Middle States were largely replaced by fields of grass or grain. If this were so, they have simply returned to their normal habitat, no doubt because their numbers are not at present sufficient to enable them to occupy the Atlantic Coast region also. It is not probable that we shall again see them commonly in New England until they have repopulated the Middle States, which, of course, they may never do. In other words there is not likely to be a sudden and direct overflow from the Mississippi Valley to a region so distant from it as New England.

INTRODUCTION OF THE HOUSE SPARROW.

In 1858 Mr. Joseph Peace Hazard imported a number of House Sparrows from Liverpool, England, for the purpose of liberating them at Peace Dale, Rhode Island. They were landed at Boston where, it is said, some of them accidentally escaped.¹ Of these fugitives nothing was afterwards heard, and it is probable that all of them perished. The House Sparrow was again introduced into Boston — this time deliberately but once more without apparent success — in 1868, when two hundred birds were purchased in Germany by the city government. “Unfortunately all died on their passage except about a score. These were set at liberty in June, but, weakened by their sea-voyage, several of them were found dead in the deer-park, and the rest disappeared. The following summer more were imported, but all died except ten. These were well cared for, and only released when in excellent condition. For some months nothing was seen of these birds, and the experiment was supposed to be a failure, when it was ascertained that they had betaken themselves to the vicinity of stables in the southern part of the city, had increased and multiplied in large numbers, reappearing in the winter to the number of one hundred and fifty. They were regularly fed by the city forester each day in the deer-park, and roosted at night in the thatch of the roofs of the buildings. Since then they have very largely increased. About twenty, that same summer, were set at liberty in Monument Square, Charlestown.”²

I remember spending the greater part of a cold morning in December, 1869, looking for the alien birds in Boston. On this occasion I failed to find any of them on the Common, but near the pond in the Public Garden I finally came upon six or eight huddled together in the top of a leafless bush. During the next three years they became numerous in Boston, and in 1873³ they began to invade Cambridge, appearing first at Harvard Square and in Cambridgeport. A few were seen in the immediate neighborhood of our own place the following year, and in 1875 a pair nested, for the first time, in our garden. By 1878 they had established themselves very generally throughout Cambridge, as well as in

¹ Merriam and Barrows The English Sparrow (*Passer domesticus*) in North America. U. S. Department of Agriculture. Division of Economic Ornithology and Mammalogy. Bulletin I, 1889, 18.

² Baird, Brewer, and Ridgway, History of North American Birds, I, 1874, 526-527.

³ It is possible that a few birds entered Cambridge before this date, but if so I have been unable to obtain any evidence of the fact.

parts of Watertown, Belmont, Waltham and other neighboring towns, and in the course of the next six or eight years they spread over the greater part of the territory which they now occupy in the Cambridge Region, taking possession first of the town centers, next of the cultivated grounds about suburban dwellings, and finally of such outlying farms and orchards as they found suited to their tastes. For some time they shunned all densely wooded and most sparsely populated localities, but they had made themselves thoroughly at home in the country lying immediately to the westward of Mount Auburn before its orchards, woods and fields had begun to give place to settlements of houses.

The introduction of the House Sparrow into America called forth a storm of protest and warning from several of our leading ornithologists to whom it was known that in parts of the Old World where the bird abounded its presence was generally regarded — and for good and sufficient reasons — as a curse rather than a blessing. Nor had the Sparrow been long in this country before our newspapers and other serial publications began to teem with accounts of its ravages on fruit and grain, and of its murderous assaults on certain of the native birds, while even its usefulness as a destroyer of noxious insects came to be seriously questioned. Its friends and supporters, by no means few in number, rushed to the rescue with counter statements and evidence, coupled with impassioned appeals to humane sentiment, and the pros and cons of the question were argued at such length and with so much personal feeling that the controversy came to be termed the 'sparrow war.' Some of the charges brought against the bird at this time may have been without foundation, and others, unquestionably, were grossly exaggerated, but that most of them were at least based on fact is only too evident at the present day. It is probable, however, that only those of us who personally remember the conditions which existed before the Sparrows came, and who actually witnessed the changes that accompanied their increase and general dispersion, can realize to the full the disastrous and far-reaching effects which their introduction has had on our native bird population.

When the House Sparrow began to invade Cambridge, the native bird fauna of this city was rich and varied for so large and populous a place. As the alien hordes multiplied and spread, several of the indigenous species which, up to that time, had bred numerous throughout the entire city, retired first from its central portions and finally beyond its suburbs. The Bluebirds, House Wrens and Tree Swallows were the first to go, and the Eave Swallows soon followed them. So quickly and completely were these four species banished that they had nearly or quite ceased to breed anywhere in the thickly settled parts of Cambridge within ten years from the first appearance of the House Sparrows. The Purple Finches, Song Sparrows, Indigo-birds and Least Flycatchers disap-

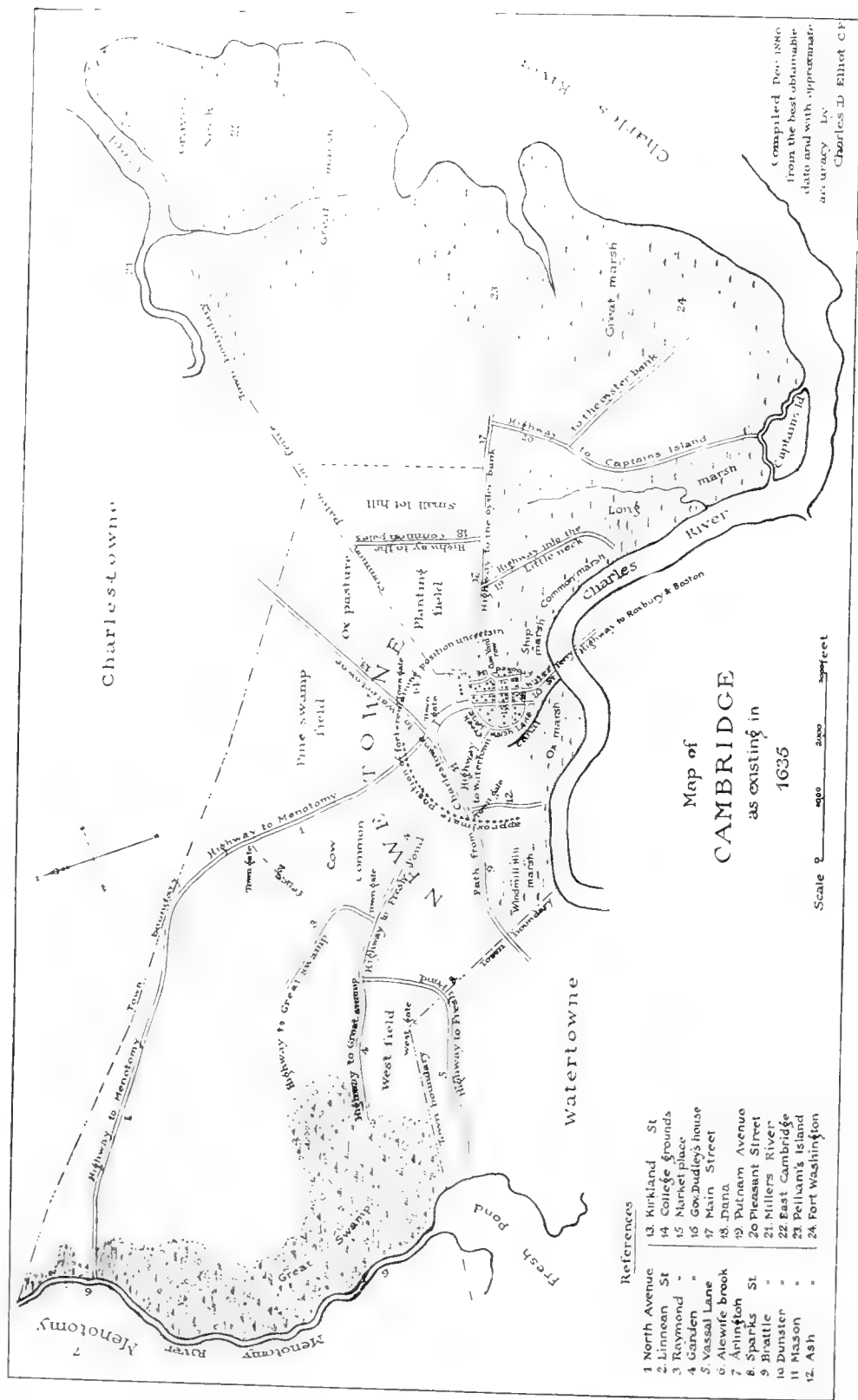
peared more slowly, but in the end almost as completely. These, I believe, are all the birds which became nearly or quite lost to us during this period; but of the smaller and weaker species that still remain, the Redstart is probably the only one which has not seriously diminished in numbers and become greatly restricted in respect to local distribution. Of the larger and stronger birds, the Robin, Oriole and Flicker, do not seem to have been affected in any way by the coming of the Sparrows, while the Crow, Bronzed Grackle and Rose-breasted Grosbeak are much more numerous and widely distributed within the city proper now than they were thirty years ago.

Respecting the precise methods by which our Bluebirds, House Wrens and Swallows were dispossessed of their ancestral nesting places and, with other equally attractive and useful species, driven nearly or quite beyond the confines of our cities and larger towns, my personal experience does not wholly agree with that of certain observers who have testified strongly against the Sparrow. For example, I have only once seen him attack, with obvious anger or malice, a *fully mature* bird of any other species, and I believe him to be too crafty — and perhaps also too cowardly — to often resort to such open violence, although that he does so occasionally is beyond all question. Ordinarily, however, he appears to compass his ends by means which in some respects are so subtle and obscure that it is not easy to fathom them. Obviously he derives a great advantage from his exceeding prolificness and from the fact that he is nearly everywhere a permanent resident. Even before he had become abundant in Cambridge the Bluebirds, House Wrens and Tree Swallows, returning from the south in spring, found him in full possession of their nesting places, for to these he turned his first attention. Possession, in bird, as well as human, law weighs heavily in the balance. Nevertheless the species just mentioned did not, in most cases, abandon their long established haunts without making the most determined efforts to retain them. They struggled, however, against fearful odds and with a foe too insidious and persistent to be successfully opposed. Not that it was difficult to evict the Sparrows from the bird-houses, olive jars and hollow apple trees in which they had begun their nests, for the cowardly crew fled ignominiously before the first onslaughts on the part of the legitimate tenants, but the latter discovered in the end that, whereas “they may take who have the might,” it is equally true that only “they may keep who can.” The Sparrows collected by dozens about each box or hole, chattering derisively and doing whatever else they could to keep the mother Bluebird, Wren or Swallow in a state of perpetual irritation and alarm. If her mate appeared, or if she herself sallied out to attack them, they would instantly scatter and disappear, only to return again shortly afterwards. Whenever she ventured forth in quest of more nesting material, or of food for herself or young, they would enter the hole and tear the nest to pieces,

while not infrequently they perforated the eggs, or killed the young by pecking holes in their tender skulls. All these deeds of aggression have been repeatedly witnessed, and most of them have come under my own observation.

In cases such as those just mentioned the Sparrows were evidently actuated by a strong desire to obtain possession of the comfortable and secure breeding places of the Bluebirds, Wrens and Swallows, but no such motive will account for the similarly conducted forays which they have been known to make on the nests of Warblers, Vireos and even of the smaller Flycatchers. I am of the opinion, however, that these and all other birds which build nests unsuited to the Sparrow's use have never been maliciously persecuted by him to any serious extent, and that such of them as have withdrawn from the places which he most frequents must have done so chiefly because of influences that he exerts indirectly and, no doubt, quite unintentionally. For one thing, I believe that his harsh and insistent voice is discordant to their ears, and that they are annoyed and discouraged when, as so often happens, it drowns their own sweet and musical notes. Assuredly this must be so if, as can scarcely be doubted, they appreciate and enjoy their own music or that of their mates. Again, the Sparrow overcrowds most of the localities which it inhabits, and, being constantly present there, devours, almost before they ripen, very many kinds of seeds and berries which formerly attracted and nourished other and infinitely more desirable seed- and fruit-eating birds. With the sources of supply on which insectivorous birds depend, the Sparrow does not, however, interfere to any appreciable extent; although he occasionally catches and devours small insects, and in June habitually feeds his young on the larvæ of the canker-worm whenever they can be easily obtained.

I am quite aware that the House Sparrow continues to have friends and defenders who, in the face of overwhelming evidence to the contrary, deny that he has had anything to do with the local disappearance or diminution of any of our native birds, or who maintain that such changes would, in any event, have resulted from the rapid increase in human population and dwellings that has taken place in most of our towns and cities during the past thirty years. With those who have long held strongly to such opinions it is quite useless to argue, since they have become so hopelessly imbued with prejudice as to be unwilling, if not unable, to appreciate the significance and weight of the testimony bearing on the opposite side of the question; but for the benefit of the younger generations, who may be assumed to be open to conviction, yet not fully informed respecting the past history of the case, it is certainly worth the while to revert to the definitely established, if almost forgotten, fact that up to the time when the House Sparrow became numerous in Boston, Bluebirds, House Wrens, Tree Swallows, and several other kinds of birds which have long ceased to occur



Map of
CAMBRIDGE
as existing in
1635

References

- 1 North Avenue
- 2 Linnean St
- 3 Raymond "
- 4 Garden "
- 5 Vassal Lane
- 6 Alewife brook
- 7 Arington
- 8 Sparks St
- 9 Brattle
- 10 Dunster
- 11 Mason
- 12 Ash
- 13 Kirkland St
- 14 College grounds
- 15 Market place
- 16 Gov. Dudley's house
- 17 Main Street
- 18 Dana
- 19 Putnam Avenue
- 20 Pleasant Street
- 21 Millers River
- 22 East Cambridge
- 23 Pellivan's Island
- 24 Fort Washington

Compiled Dec. 1886
from the best obtainable
data and with approximate
accuracy by
Charles D. Elliot C.E.

there in summer, bred regularly on Boston Common. Yet the physical conditions and immediate environment of this urban park were essentially the same then as they are today. There are also neighborhoods lying near the heart of Cambridge, which within the past thirty or forty years have changed but slightly in respect to the number of houses, or in the extent and character of the gardens and other open spaces, but from which the native birds above mentioned disappeared, as they did from Boston, during the period of rapid increase and general dispersion of the House Sparrow.

EARLY WRITERS AND ORNITHOLOGISTS.

Wood's 'New Englands Prospect,' Morton's 'New English Canaan,' and Josselyn's 'New-Englands Rarities Discovered' and 'Two Voyages to New-England,' contain matter which relates more or less directly to the ornithology of the Cambridge Region. They treat chiefly of a narrow coastal belt extending from Plymouth, Massachusetts, to Portland, Maine, and exclusively of periods when most of this region was still either virgin wilderness or but sparsely and recently settled. It is to be regretted that their authors had not more to say of the birds which they met with, but their quaintly phrased testimony is perhaps all the more interesting by reason of its very meagerness and often obscurity. Although it has been repeatedly cited and discussed by ornithologists,¹ its value and pertinence have been by no means fully brought out. As I have had rather frequent occasion to quote from these early writers in the text of my paper, it may be well to say here a few words concerning them and the general character of their ornithological work.

Thomas Morton was first on the ground, although his 'New English Canaan' was not printed until 1637 (Mr. Adams thinks "there is strong internal evidence that" it "was written in 1634"²), and hence three years after Wood's 'New Englands Prospect' was published. Morton made at least four different visits to Massachusetts. On the first occasion he came over in the summer of 1622 (less than two years after the first settlement of Plymouth) and

¹ J. A. Allen, Bulletin of the Nuttall Ornithological Club, I, 1876, 53-60; Memorial History of Boston, I, 1880, 11-14. C. H. Merriam, Birds of Connecticut, 1877, 45 *et seq.* W. Brewster in ed. C. F. Adams, Jr., Thomas Morton, New English Canaan, 1883, 189-199.

² C. F. Adams, Jr., Thomas Morton, New English Canaan, 1883, 78.

remained at Wessagussett (Wessaguscus of Morton, now Weymouth) until October when he returned to England. He next came early in 1625 to settle at Passonagessit, or Mount Wollaston, as it is now called, a headland of Quincy Bay about two miles north of Wessagussett. "The two localities were separated from each other not only by the river [the Monatoquit River], which here widens out into a tidal estuary, but by a broad bafin which filled and emptied with every tide, while around it were extensive salt marshes intersected by many creeks."¹ On this occasion Morton spent three consecutive years at Mount Wollaston, or "Ma-re-Mount,"² as he called it, consorting freely with the Indians and supplying them with guns, ammunition and 'fire water' in exchange for furs. By so doing he interfered with the trade, as well as security, of the Plymouth colonists, whom he further offended by his conspicuously riotous and immoral manner of life. They accordingly caused him to be arrested by Myles Standish in June, 1628, and he was sent back to England in a fishing vessel two or three months later. He returned to "Ma-re-Mount" in August of the following year, and remained there until September, 1630, when he was again arrested (this time by order of Governor Winthrop) and, after an imprisonment of some four months, banished once more to England. He reappeared at Plymouth in the summer of 1643 when "Capt Standish takes great offence . . . that he [Morton] is so neer him as Duxburrow [Duxbury], & goeth sometimes a fowling in his ground,"³ but this, of course, was after his book was published. He "seems to have gone in June, 1644,"⁴ from Duxbury to Casco Bay, and to have died "poor and despised"⁵ at Acomenticus (now York, Maine), in 1645.

Morton was a keen sportsman, trained to the use of a gun and also skilled in the art of falconry which he apparently practised with some success soon after settling in Massachusetts.⁶ We gather from his text that he devoted a generous share of his time to the pursuit of the Geese, Ducks and wading birds of various kinds, which, in his day, resorted to the waters and shores of Boston Harbor in countless thousands. It is not improbable that some of his shooting excursions extended as far as the Back Bay and the lower reaches of Charles River,

¹ C. F. Adams, Jr., *Thomas Morton, New English Canaan*, 1883, 9.

² *Ibid.*, 14, foot-note.

³ Edward Winslow in litt. to John Winthrop, Sept. 11, 1643, *Massachusetts Historical Collections*, fourth series, VI, 1863, 175.

⁴ C. F. Adams, Jr., *Thomas Morton, New English Canaan*, 1883, 85.

⁵ John Winthrop, *History of New England from 1630 to 1649*, edited by James Savage, II, 1826, 192. C. F. Adams, Jr., *Thomas Morton, New English Canaan*, 1883, 91.

⁶ He says: "at my first arrivall in those parts [I] practifed to take a Lannaret [no doubt a Duck Hawk], which I reclaimed, trained, and made flying in a fortnight, the same being a paffinger at Michuelmas." (Thomas Morton, *New English Canaan*, 1637, 71. Ed. C. F. Adams, Jr., 1883, 195-196.)

although of this there is no evidence. Without question, however, most of the birds which he met with near Mount Wollaston formerly frequented the Cambridge Region also. Hence his testimony regarding them is not without pertinence to our present subject. Of its general reliability there can be little or no doubt. Indeed he seems to have been an intelligent and accurate observer, and to have confined himself chiefly to writing of matters with which he was familiar from personal observation. Unfortunately he took little notice of birds other than those in which sportsmen are more or less directly interested.

William Wood's 'New Englands Prospect' was published in London in 1634. Its author came to Massachusetts early in 1629 and returned to England in August, 1633. He describes, evidently from personal knowledge and observation, most of the islands in Boston Harbor, "Weffagutus" (= Weymouth), Mount Wollaston, Dorchester (then "the greateft Towne in *New England*"), Roxbury, Boston, Charlestown, Cambridge (then "New-towne"), Watertown, "Mifticke" (= Medford), "Saugus" (= Lynn), Nahant, Salem, "Marvill Head" (= Marblehead), "Agowamme" (= Ipswich), and "Merrimacke" (= Newburyport).¹ He also mentions making a trip to Plymouth, which he reached by following Indian trails leading through the dense forest. But although he appears to have visited nearly if not quite all of the settlements which then existed in Massachusetts, most of his time was apparently passed at a place which he calls "Saugus," of which he was one of the original founders. Mr. Charles C. Smith, Treasurer of the Massachusetts Historical Society, writes to Mr. Walter Deane, that "when we first hear anything of Saugus it covered all the territory between Boston and Chelsea on the west and Salem and Marblehead on the east; and this was the case when Wood wrote. So far as I can discover, the few inhabitants were scattered over the whole region, from Swampscott to Chelsea. About three years after Wood wrote, the name was changed from Saugus to Lynn; and it was not until 1815 that the present Saugus was incorporated; it is only a small part of the original Saugus." Wood's map places Saugus at or very near the present location of Lynn, and his text makes it perfectly clear that this was where he lived during the greater part of the four consecutive years that he spent in New England. We may further assume with reasonable safety that most of the wading birds and water-fowl which he mentions were met with in the marshes and shallow bays lying between Lynn and Revere and along the shores of the open ocean between Nahant and Marblehead.

If, as there are some reasons for inferring, Wood was less of a sportsman

¹ William Wood, *New-England's Prospect*, edited by Charles Deane, 1865, 40-49.

than Morton, he certainly excelled him as a naturalist and writer. His zoological interests were wider and deeper, he had a saner and more logical mind, while in respect to literary ability his superiority is especially marked. When writing of matters which had come under his personal observation he was habitually careful and moderate of statement, but he occasionally allowed himself to be betrayed into crediting, and also repeating, untrustworthy testimony regarding birds and mammals with which he was unacquainted. Singularly enough the text of the reckless and unprincipled Morton is almost wholly free from borrowed evidence of this character.

Wood is said to have returned to Lynn the year (1635) after his book was published, and to have "represented that settlement in the Massachusetts Legislature in 1636. He led a colony of fifty to Sandwich, Mass., in 1637, and then suddenly disappears from the printed records. He evidently was a learned business man, loving the wilderness, and extraordinarily at home with the American Indians, of whom he is a most accurate reporter."¹

John Josselyn's 'New-Englands Rarities' was published in 1672, and his 'Two Voyages to New-England' in 1674. The earlier of his two voyages was undertaken in 1638, when he landed at Noddle's Island in Boston Harbor on July 10, and after remaining there two days went directly by sea to Black Point (now Scarborough, Maine). Here he spent rather more than a full year, returning to Boston in September, 1639, and to England that same autumn. His second voyage was made in 1663, when he arrived at Boston on July 28. The following six weeks were apparently devoted to accumulating information regarding the already numerous towns and settlements of southern New England. Of these he treats at considerable length but in terms which indicate that his knowledge of them was largely derived from a study of books and maps, supplemented by hearsay evidence. It is probable, however, that on this and perhaps subsequent occasions he visited most of the places lying near Boston and along the coast to the northward as far as Portland, Maine. Cambridge, he says, was then "the neateft and best compacted Town, having many fair structures and handfom contrived ftreets; the Inhabitants rich, they have many hundred Acres of land paled with one common fence a mile and half long, and store of Cattle."² He also tells us that "in 1669 the pond that lyeth between *Water-town* and *Cambridge* [*i. e.*, Fresh Pond], caft its fifh dead upon the fhore, forc't by a mineral vapour as was conjectured."³

¹ E. M. Boynton, William Wood, New Englands Prospect, 1898, Introd., iii-iv.

² John Josselyn, Two Voyages to New-England, ed. 2, 1675, 165. W. Veazie's reprint, 1865, 127.

³ *Ibid.*, 189. *Ibid.*, 145.

By the middle of September, 1663, Josselyn was again at Black Point, reaching it, as before, in a coasting vessel from Boston. His second stay at this place apparently lasted for upwards of eight consecutive years. At least there appears to be no evidence that he went elsewhere during this period. It is therefore probable that a large proportion of the facts and fables reported in his books relate more or less directly to this particular locality or to the wilderness that bounded it on the west and north. After leaving it for the last time, at the close of August, 1671, Josselyn returned to Boston, sailing thence for England on the 10th of the following October.¹

Josselyn was a fluent and interesting writer, but what he has to say regarding the birds and mammals of New England appears to have been taken chiefly at second-hand and often on more than doubtful authority. He gave particular attention to plants, and especially to their medicinal properties, but Tuckerman says that "his curiosity in natural history, and especially in botany, is his chief merit; and this now gives almost all the value that is left to his books."² We may picture him as an intelligent, well-educated but ease-loving man who preferred sitting with a book by his brother's fireside at Black Point to tramping with dog and gun across treacherous marshes or through difficult forest paths, but who, nevertheless, was not without interest in the plant and animal life of the regions which he visited. Naturalists who lack extensive field experience are seldom competent judges of the value and accuracy of field observations made by others, and Josselyn was no exception to this rule. Indeed he appears to have lent a credulous ear to almost everything that was told him by the colonists and Indians, for his text abounds in absurd or exaggerated statements. Thus he tells of a "Triton" or "Mereman" reported at Casco Bay, of a sow that, being killed, was found to have twenty-five pigs "within her belly,"³ of a Snow Goose with three hearts, etc. The Moose, he says, is "twelve foot" high "from the toe of the fore-foot, to the pitch of the shoulder" and the tips of its horns "are sometimes found to be two fathom [*i. e.*, twelve feet!] afunder."⁴

Nuttall's 'Manual of the Ornithology of the United States and of Canada' was written in Cambridge, and much of the original matter which it contains apparently relates to observations made in the immediate neighborhood of that

¹ All the dates given by me in the above accounts of Morton's, Wood's and Josselyn's visits to New England were taken from the works of these authors, and hence are 'old style' dates.

² E. Tuckerman, John Josselyn, *New-Englands Rarities Discovered*, 1865, *Introd.*, 9.

³ John Josselyn, *Two Voyages to New-England*, ed. 2, 1675, 23, 25. W. Veazie's reprint, 1865, 23, 24.

⁴ *Ibid.*, 88, 89. *Ibid.*, 70.

place between 1822 and 1832. The 'Land Birds' (Vol. I) was published by Hilliard and Brown of Cambridge in 1832, and the 'Water Birds' (Vol. II) by Hilliard, Gray, and Company of Boston in 1834. A second edition of the Land Birds, repaged and containing a good deal of additional matter, was issued by the latter firm in 1840. In 1891 Little, Brown, and Company of Boston brought out a 'Popular Handbook of the Ornithology of the United States and Canada, Based on Nuttall's Manual.' This book was severely handled by the critics, and with good reason, for its editor, Mr. Montague Chamberlain, took many unwise liberties with Nuttall's text, changing or omitting much of the original matter, and re-writing all the descriptions of the birds as well as those of their nests and eggs. A second and somewhat improved edition of the Nuttall-Chamberlain Manual appeared in 1896, and a third edition, reprinted from the electrotyped plates of the second edition, was issued in 1903.

Thomas Nuttall was born in Settle, Yorkshire, England, in 1786. He is believed to have been of humble parentage and to have received no regular education, although he is said to have been "a well-informed young man,"¹ possessing some knowledge of natural history, as well as of Latin and Greek, when, after serving as an apprentice to a printer in England, he came to America in 1808. Almost immediately after landing at Philadelphia he formed the acquaintance of Professor Benjamin S. Barton, through whom he became interested in botany. During the spring of this year he collected plants assiduously, bringing them to Barton, with whose assistance they were identified and preserved. Some of the field excursions made by him about this time extended as far as the coasts of Virginia and North Carolina. In the autumn of 1809 he accompanied the Scotch naturalist, John Bradbury, on an expedition up the Missouri River, whence he returned early in 1811 with a considerable collection of seeds, plants and minerals. During the following eight years he spent his winters at Philadelphia, studying the collections made during summer trips to various parts of the region lying east of the Mississippi, between the Great Lakes and Florida. These field and closet investigations furnished the material for his 'Genera of North American Plants' a work which appeared in 1818 and which, in the opinion of Professor John Torrey, "contributed more than any other [work] to advance the accurate knowledge of the plants of this country."²

During his journey into the interior of Arkansas, of which he published an account³ in 1821, Nuttall was absent from Philadelphia about sixteen months

¹ E. Durand, Biographical Notice of the late Thomas Nuttall, Proceedings of the American Philosophical Society, VII, 1860, 297.

² J. Torrey, *Flora of the Northern and Middle Sections of the United States*, 1824, v.

³ T. Nuttall, *Journal of Travels into the Arkansa Territory, during the year 1819, 1821.*

(from October 2, 1818, to the spring of 1820), travelling it is said, "more than five thousand miles, mainly over a country never visited before by scientific explorers, and still in the undisputed possession of the wild Indian."¹ This expedition was apparently only second in interest and importance to that which he and John K. Townsend made across the continent with Captain Wyeth (of Cambridge, Massachusetts) in 1834. After his return from Arkansas, Nuttall spent upwards of two years more at Philadelphia. During this period (between the years 1821 and 1823) he published a number of scientific papers, chief among which were: 'Observations on the Geological Structure of the Valley of the Mississippi'; 'A Description of some new species of Plants, recently introduced into the gardens of Philadelphia, from the Arkansa territory'; 'Descriptions of rare plants recently introduced into the gardens of Philadelphia'; 'A Catalogue of a collection of Plants made in East-Florida during the months of October and November, 1821'; 'Observations on the Serpentine rocks of Hoboken, in New-Jersey, and on the minerals which they contain'; 'Observations and Geological Remarks on the Minerals of Patterson and the valley of Sparta, in New-Jersey'; 'Observations on the genus *Oryzopsis*'; 'Remarks on the Species of *Corallorhiza*, indigenous to the United States.' "At the end of 1822," according to Durand, "Mr. Nuttall was called to Cambridge, to fill, in the Harvard University, the place of the late Mr. Peck. He was not elected Professor of Natural History, but simply appointed Curator of the Botanic Garden, the fund of the Massachusetts Professorship of Natural History being insufficient for the support of a professor. Mr. Nuttall had consequently but light duties of instruction assigned to him. He delivered only occasional lectures on Botany to the students and residents of Cambridge; his time was almost exclusively devoted to the culture of rare plants and to his favorite studies, mineralogy and ornithology included. While at Cambridge, Mr. Nuttall led very much the same retired life that he had done in Philadelphia; he made few acquaintances, and the late Mr. James Brown was, perhaps, his only intimate friend. The house which he then occupied, and which is now the present habitation of the Professor of Botany, retains yet traces of some ingenious arrangements to favor his recluse habits."²

"Towards the beginning of 1833, Mr. Nuttall returned to Philadelphia, bringing with him a collection of plants gathered by Capt. Wyeth, during a journey overland to the Pacific. Capt. Wyeth was soon to start on a second expedition, and Nuttall had decided to accompany him; but, not succeeding in

¹ E. Durand, Biographical Notice of the late Thomas Nuttall, Proceedings of the American Philosophical Society, VII, 1860, 303.

² *Ibid.*, 304.

obtaining a prolonged leave of absence from the college authorities at Cambridge to perform this long journey, he concluded to resign his office of Curator of the Botanic Garden. During his short residence in our city [Philadelphia], preparatory to his arduous journey across the continent, he was assiduously engaged at the Academy of Natural Sciences, studying Capt. Wyeth's plants, and preparing his memoir on those which he had collected himself in the interior of Arkansas. The result of these labors was the publication of several valuable papers,"¹ among them being: 'A Catalogue of a Collection of Plants made chiefly in the Valleys of the Rocky Mountains or Northern Andes, towards the sources of the Columbia River'; 'Collections towards a Flora of the Territory of Arkansas'; 'A Description of some of the rarer or little known plants indigenous to the United States, from the dried specimens in the herbarium of the Academy of Natural Sciences in Philadelphia.'

Nuttall's journey across the continent was the last that he made into wild and dangerous regions. On this occasion he was accompanied by John K. Townsend, a young naturalist who was sent out to make collections for the Philosophical Society and for the Academy of Natural Sciences, and who during this expedition obtained a number of birds new to science, most of which were afterwards described and figured by Audubon. Nuttall and Townsend left Philadelphia early in 1834, joining Capt. Wyeth's party at St. Louis in March. On the 28th of April their "caravan, consisting of seventy men, and two hundred and fifty horses, began its march"² at Independence, Missouri, according to Townsend, whose well-known 'Narrative' gives a full and very interesting account of the expedition. He and Nuttall reached Fort Vancouver at the mouth of the Columbia River on the 16th of the following September. Towards the close of the year they sailed for the Sandwich Islands, where they arrived on January 5, 1835, and remained upwards of three months.

Returning to Fort Vancouver, they spent most of the following spring and summer on or near the Pacific Coast. Durand says that Nuttall sailed for home from the Sandwich Islands in a Boston vessel, and that he "arrived in Boston in the beginning of October, 1835."³ These statements have been since repeated in substance by other writers, apparently on the authority of Durand, but, as Mr. F. V. Coville has pointed out⁴ they are obviously erroneous, for

¹ E. Durand, Biographical Notice of the late Thomas Nuttall, Proceedings of the American Philosophical Society, VII, 1860, 305-306.

² J. K. Townsend, Narrative of a Journey across the Rocky Mountains, to the Columbia River, 1839, 27.

³ E. Durand, Biographical Notice of the late Thomas Nuttall, Proceedings of the American Philosophical Society, VII, 1860, 311.

⁴ F. V. Coville, Proceedings of the Biological Society of Washington, XIII, 1899, 109-113.

Townsend's Narrative shows that in October, 1835, Nuttall was making his second voyage from the Columbia River to the Sandwich Islands,¹ while Richard H. Dana's 'Two Years before the Mast' contains entries² which make it absolutely certain that Nuttall sailed with Dana from San Diego, California, on May 8, 1836, in the 'Alert,' and that, after rounding Cape Horn, they landed together in Boston on the 21st of the following September.

Dana's account of his meeting with Nuttall in California is most amusing. He says: "I had left him quietly seated in the chair of Botany and Ornithology, in Harvard University; and the next I saw of him, was strolling about San Diego beach, in a sailor's pea-jacket, with a wide straw hat, and barefooted, with his trousers rolled up to his knees, picking up stones and shells . . . he came down to the boat, in the rig I have described, with his shoes in his hand, and his pockets full of specimens." The second mate of the 'Pilgrim' had described him to Dana before this as "a 'sort of an oldish man,' with white hair, and spent all his time in the bush, and along the beach, picking up flowers and shells, and such truck, and had a dozen boxes and barrels, full of them." The sailors nicknamed him "'Old Curious,' from his zeal for curiosities, and some of them said that he was crazy, and that his friends let him go about and amuse himself in this way. . . . One of them, however, an old salt, who had seen something more of the world ashore, set all to rights, as he thought, — 'Oh, 'vast there! — You don't know anything about them craft. I've seen them colleges, and know the ropes. They keep all such things for cur'osities, and study 'em, and have men a' purpose to go and get 'em. This old chap knows what he's about. He a'n't the child you take him for. He'll carry all these things to the college, and if they are better than any that they have had before, he'll be head of the college. Then, by-and-by, somebody else will go after some more, and if they beat him, he'll have to go again, or else give up his berth. That's the way they do it. This old covey knows the ropes.'" ³

When the 'Alert' was off "the island of Staten Land, just to the eastward of Cape Horn . . . Mr. N. said he should like to go ashore upon the island and examine a spot which probably no human being had ever set foot upon; but the captain intimated that he would see the island — specimens and all, — in — another place, before he would get out a boat or delay the ship one moment for him." ⁴

¹ J. K. Townsend, Narrative of a Journey across the Rocky Mountains, to the Columbia River, 1839, 233.

² [R. H. Dana, Jr.], Two Years before the Mast, 1840, 347 *et seq.*

³ *Ibid.*, 359, 360, 361.

⁴ *Ibid.*, 412, 413.

Nuttall spent the next four or five years in Philadelphia, working at the Academy of Natural Sciences, in close association with his friend Dr. Pickering, on the rich collections obtained during his trip across the continent and to the Sandwich Islands. This expedition furnished some fresh matter for the second edition of the 'Land Birds' besides a great amount of novel botanical material. In 1840 he published in the 'Transactions of the American Philosophical Society' an important memoir entitled: 'Descriptions of new Species and Genera of Plants in the natural Order of the Compositæ, collected in a Tour across the Continent to the Pacific, a Residence in Oregon, and a Visit to the Sandwich Islands and Upper California, during the Years 1834 and 1835.' This paper was quickly followed by another giving a 'Description and Notices of new or rare Plants in the natural Orders Lobeliaceæ, Campanulaceæ, Vacciniæ, Ericaceæ, collected in a Journey over the Continent of North America, and during a Visit to the Sandwich Islands, and Upper California.' Soon afterwards he wrote an appendix to Michaux's 'Sylva,' which, however, was not published until several years later.

In 1842 Nuttall returned to England, where he spent the remainder of his life on an estate in the neighborhood of Liverpool, which had been left to him by an uncle. He devoted himself to farming and to the cultivation of various kinds of plants, especially rhododendrons. In the autumn of 1847 he visited America for the last time, remaining at Philadelphia five or six months, and doing some further botanical work. His death took place in England on September 10, 1859.

Mr. Durand gives the following interesting description of Nuttall's personal appearance and characteristics:¹ "He was a remarkable-looking man: his head was very large, bald, and bore the marks of a vigorous intellect; his forehead expansive, but his features diminutive, with a small nose, thin lips, and round chin, and with gray eyes under fleshy eyebrows. His complexion was fair, and sometimes very pale from hard labor and want of exercise. His height was above the middle; his person stout, with a slight stoop; and his walk peculiar and mincing, resembling that of an Indian.

"Nuttall was naturally shy and reserved in his manners in general society, but not so with those who knew him well. If silent or perhaps morose in the presence of those for whom he felt a sort of antipathy, yet, when with congenial companions, he was affable and courteous, communicative and agreeable. From long solitary study, the cast of his mind was contemplative and abstracted; but when doubts and difficulties were solved, he was apparently light and buoyant.

¹ E. Durand, Biographical Notice of the late Thomas Nuttall, Proceedings of the American Philosophical Society, VII, 1860, 306-307.

‘At the conclusion of a piece of work,’ says one who has been most intimate with him, ‘I have seen him rise from his chair, approach the stove, and, in his own peculiar way, put his hands behind his back, and, for an hour or two, pour forth a torrent of narrative and scientific facts on which was the cast of his own philosophical thoughts and conclusions. I have frequently seen him in social circles, when he was the delight of the company, from his cheerful and natural replies to all interrogatories, and his voluntary details upon the subject of his travels and adventures.’”

Although Nuttall made long and arduous journeys through wild and remote regions, enduring hardships of every kind with admirable patience and equanimity, he seems to have been ill-fitted in some respects for leading an adventurous life. Thus we are told by Durand that “he had the utmost horror of the Indians,”¹ and that once, when he was warned that they were about to attack his party, his gun, which “had been freely used to uproot plants” was found to be “filled with gravel to the muzzle.”² On another occasion when he had lost his way he mistook some friendly Indians, who had been sent to assist him, for hostile savages, and, in his attempts to elude them, passed three days without food or sleep.

Nuttall was a naturalist of the old school, and a very good one, too. His interests took a wide range, for, while he devoted himself chiefly to plants, he also gave much attention to birds and was by no means without curiosity and knowledge respecting shells and minerals. As a botanist he so distinguished himself that Durand wrote of him soon after his death: “No other explorer of the botany of North America has, personally, made more discoveries; no writer on American plants, except perhaps Professor Asa Gray, has described more new genera and species.”³ This is higher praise than can be truthfully given to Nuttall’s work in ornithology. Indeed his only book on birds, the ‘Manual,’ is largely a compilation. Besides including borrowed statements and quotations for which he gave full credit, and much general matter which he made in a sense his own by re-writing it, he took long passages without acknowledgment and with but comparatively slight verbal changes from Wilson.⁴ Many instances of this might be cited. Some of the best are furnished by Nuttall’s life histories of the Wood Duck and Black Skimmer which were taken almost wholly, and those of the Mockingbird, Black Duck, Green Heron

¹ E. Durand, Biographical Notice of the late Thomas Nuttall, Proceedings of the American Philosophical Society, VII, 1860, 307.

² *Ibid.*, 308.

³ *Ibid.*, 315.

⁴ This fact was first brought to my attention several years ago by that diligent and appreciative student of Wilson, Mr. Walter Faxon.

and Bittern, which were in large part, from Wilson. Even the article on the familiar Bluebird contains, near its close, a rather long paragraph from Wilson's justly celebrated account of this species. As a rule the matter thus appropriated is somewhat disguised by the frequent addition, omission, substitution or transposition of words and sentences, as well as by the occasional interpolation of original statements or comments; but the thought remains essentially Wilson's, and the verbal changes are rarely more than sufficient to give Nuttall's transcript the character of a rather free translation, while in very many lines the text of the two authors matches almost word for word.

It is not less to be wondered at than regretted that Nuttall should have resorted so freely to this practice. No doubt he considered it innocent enough, believing that he had sufficiently changed the extracts from Wilson to bring them within the scope of legitimate compilation. At the time of writing his 'Manual' he probably knew less about birds than has been commonly supposed. According to Durand, Nuttall "did not relish much his residence at Cambridge; he used to say that he was only vegetating, like his own plants. At last, his friend, Mr. Brown, induced him to write a work on Ornithology."¹ From this we gather that the task of preparing the Manual, although probably not uncongenial, was nevertheless more or less perfunctory. Apparently finding, as he progressed, that his knowledge of his subject was deficient at many points, he was forced to supplement it, more extensively than he cared to acknowledge, by drawing on the works of earlier authors. But why, it may well be asked, should he have borrowed from the brains or experience of others, when writing of birds with which he himself must have been perfectly familiar? Perhaps the habit grew upon him until he became almost unconscious of it. Some such explanation seems necessary to account for his appropriation of the Wilson paragraph relating to the Bluebird. This passage contains nothing of novelty or importance, although as an expression of poetic and delicate sentiment it is truly admirable. Nuttall, however, was by no means deficient in sentiment of an equally refined quality, while he had a rare gift of phrasing his thought in quaintly attractive language. Indeed it is chiefly to the literary excellence of his 'Manual' that this book owes its enduring popularity. Not that it is without merit of other kinds. The portions which are compiled were taken from the best sources of information available at that time, and Nuttall was too good a naturalist and writer to deal with this matter other than intelligently and effectively, as well as pleasingly. His accounts of his own experiences and observations are so very interesting and attractive that one is disappointed only because

¹ E. Durand, Biographical Notice of the late Thomas Nuttall, Proceedings of the American Philosophical Society, VII, 1860, 305.

his book does not contain more of them. He was without question an exceptionally careful and accurate observer of everything which especially attracted his attention. His original descriptions of the habits and actions of birds are invariably good, and his renderings of their songs and call notes rank among the very best that have ever been published.

It is probable that the period of Nuttall's greatest interest and activity in the field study of birds was that during which he was engaged in writing the 'Manual,' and that his original contributions to this book are based very largely on observations made in the immediate neighborhood of Cambridge. Indeed the 'local coloring' of much of the matter is unmistakable. Such portions of it as clearly relate to his experience in the Cambridge Region afford testimony of the utmost credibility and value, but these, unfortunately, are too fragmentary and disconnected to give us any very clear idea of what the bird life of Cambridge was like in Nuttall's time. Evidently he had no thought either of the desirability of distinguishing the general from the local matter, or of the importance of making the latter as full and complete as possible. In view of these facts we should be cautious about laying too much stress on the negative testimony afforded by his work, although there are cases, I think, where it is entitled to consideration.

It should be understood that all references to 'the Cabots' in the text of the present paper relate to Dr. Samuel Cabot and his brothers, Mr. J. Elliot and Mr. Edward C. Cabot, all formerly of Boston. Samuel Cabot was born in Boston on September 20, 1815. He entered Harvard College in 1832 (the year when Nuttall's 'Manual of the Land Birds' was published). Before and during his college days, as well as for a number of years after his graduation in 1836, he gave a large share of his time to the pursuit of ornithology, making a considerable collection of birds which was given, after his death, to the Boston Society of Natural History. He went to Paris to study medicine and surgery in September or October, 1839, returning to Boston in the spring or summer of 1841. In the winter of 1841-1842 he visited Yucatan with John L. Stephens,¹ obtaining there several birds new to science, which he described. Not long after this he began the practice of medicine in Boston. It absorbed more and more of his attention, as the years went by, although he never lost his interest in birds. Had he been able to devote his life to their study, he would, with-

¹ This was Stephens's second expedition to Yucatan, the first having been made in 1839-1840. Stephens published a two-volume work relating to each expedition. The appendix to volume II of the later work (*Incidents of Travel in Yucatan*, New York, 1858) has a brief chapter by Dr. Cabot, containing a full list of the birds which he observed in Yucatan between October, 1841, and June, 1842.

out question, have become one of the most eminent of the ornithologists of his time, for he had pronounced scientific tastes, great steadfastness of purpose, and a remarkably keen and analytical mind. He died on April 13, 1885.

J. Elliot Cabot was born on June 18, 1821. He entered Harvard in 1836 and was graduated in 1840. He was a man of refined and scholarly tastes, devoted to literature, and also a true lover of nature. That his interest in birds, although sincere and lasting, was probably less profound and certainly less scientific than that of his brother Samuel, is indicated by the following passages¹ which my neighbor and friend Mrs. Charles Almy (a daughter of Dr. Samuel Cabot) has kindly permitted me to quote from an autobiographical sketch by J. Elliot Cabot, printed for private circulation in 1904:—

“In 1836 (June, I suppose) I entered Harvard College, at the usual age of fifteen. . . . My intimates (besides a few of the younger Southerners) were two Boston boys who lived near me (at Mrs. Willard’s, where the A. D. Club is or lately was), William Sohier and Henry Bryant, the first an ardent sportsman, and the second an ardent ornithologist, who between them led me to spend much time in shooting excursions on Charles River and woods from there to Fresh Pond and the marshes. Shooting was not allowed by the authorities; and we were obliged to carry our guns slung (in two parts, the barrel separated from the stock) under our cloaks (which were then the regular college wear in place of great-coats). Our chief (or only) danger was meeting Jones Very before we had reached the shelter of the woods and remote fields, for he (alone of the college Faculty) was a great walker. When he met us in this rig (as he often did), he looked at us sorrowfully, no doubt penetrating our disguise, but was too high-minded to call us to question. I learned to be skilful in skinning birds, and sent vast numbers of specimens to my brother Sam, who was in Paris, studying medicine, and wanted them for exchange; for he was a devoted ornithologist without prejudice to his professional labors. I did not often carry a gun myself,—perhaps only as a cripple-stopper for Sohier,—but spent much time in studying the birds with my eyes while my companion was ranging about with his gun. Sohier was sufficiently interested in my pursuit to shoot all the birds I wanted, game or not. I gained in this way a good knowledge of the birds of this vicinity, which has been a source of pleasure to me since, but at extravagant cost.

“My devotion to ornithology was much assisted and excused to myself by the urgings of my brother Sam (to whom I looked up very much, and who could see nothing but good in the stuffing of birds) to supply him with speci-

¹[J. E. Cabot], J. Elliot Cabot [Autobiographical sketch—Family reminiscences—Sedge birds], 1904, 20, 22–24.

PLATE V.

N. O. C., MEMOIR IV.



CARROT SHOOTING STAND, FRESH POND (1832-1840).

mens for exchange with naturalists in Paris, where he was living as a student of medicine. I must have sent him a vast number."

In the summer of 1848 J. Elliot Cabot accompanied Louis Agassiz on a scientific expedition to the northern shores of Lake Superior. The party also included — besides a number of Harvard instructors and undergraduates — the eminent entomologist, Dr. John L. LeConte. Professor Agassiz's well-known book¹ relating to this expedition opens with a 'Narrative of the Tour' by Mr. Cabot. This paper contains, in addition to a 'Report of the Birds collected and observed at Lake Superior,' comparatively little ornithological matter; although pleasingly written, it is inferior, in respect to literary finish and attractiveness, to 'Sedge-birds,' which Mr. Cabot published some twenty years later.² He died in Brookline on January 16, 1903.

Edward C. Cabot was an architect by profession. Having the artistic temperament and being, like all true artists, keenly alive to the beautiful in nature, he loved birds and also knew them fairly well, although they do not seem to have interested him deeply. He was about intermediate in age between his brothers Samuel and J. Elliot, and his death occurred in January, 1901.

During most of the period between 1832 and 1840 the three brothers were frequently together in Cambridge. They were all sportsmen, and also more or less interested in birds from the standpoint of the ornithologist. Both interests drew them to Fresh Pond and the neighboring swamps, of which J. Elliot Cabot afterwards wrote with such exquisite grace and feeling in his 'Sedge-birds.' As we may gather from this delightful little essay, he and his brothers followed the early morning shooting at Fresh Pond with some regularity during their college days. For several years they shot over live decoys in Cambridge Nook where, at the outlet of the pond, they had a brush stand, of which a sketch, kindly drawn for me from memory by Mr. Edward C. Cabot shortly before his death, is here reproduced. They were also fond of paddling in a canoe from Fresh Pond to Spy Pond by way of Alewife Brook and Little River, starting in the early morning, dining at the old Cooper Tavern in Menotomy Village, as Arlington was still called in those days, and returning over the same route late in the afternoon. It was by no means uncommon for them to shoot as many as twenty or thirty Black Ducks and Wood Ducks during such an excursion. Of these and kindred matters Dr. Samuel Cabot talked most entertainingly up to the very close of his long and useful life, for his interest in ornithology was ever almost if not quite as keen as that in the practice of medicine, by which he chiefly distinguished himself. On the occasion of our last

¹ L. Agassiz, *Lake Superior: its Physical Character, Vegetation, and Animals*, 1850.

² J. E. Cabot, *Atlantic Monthly*, XXIII, 1869, 384-386.

meeting, only a few months before his death, I questioned him closely as to his experience with certain of the birds (especially the water-fowl), which he and his brothers had found between the years 1834 and 1840 in the immediate neighborhood of Cambridge. His answers, which I noted carefully at the time, were as decided and unequivocal as if based on written records, for he had an exceptionally clear and retentive memory. Indeed I have such entire confidence in the accuracy of this testimony that very much of it has been cited in the course of the present Memoir. I have also included several interesting notes which Mr. J. Elliot Cabot was kind enough to send me four or five years ago.

WILLIAM BREWSTER.

Cambridge, March 30, 1905.

ANNOTATED LIST
OF THE
BIRDS OF THE CAMBRIDGE REGION.

1. *Colymbus holboëllii* (Reinh.).

HOLBÖELL'S GREBE.

Of rare occurrence during migration and in winter.

Although Holboëll's Grebe is a common spring and autumn migrant, and a not uncommon winter resident, at many localities on the seacoast of Massachusetts, it seems to be a rather rare visitor to the Cambridge Region. There is a specimen in the New England collection of the Boston Society of Natural History which was killed on January 4, 1869, in the Back Bay Basin, where, on a few occasions in late autumn, I have seen single birds swimming about not far from West Boston Bridge. I have never met with the species in any of our fresh-water ponds, but Mr. Walter Faxon saw a solitary bird in the Upper Mystic Pond on April 27, 1893, and Mr. John H. Hardy, Jr., in a letter dated April 4, 1905, tells me of the capture of two specimens in Arlington. One of these, he says, was shot "in Spy Pond, in October, about fifteen years ago, by O. W. Whittemore." It "was identified by George Freeman who was a local authority on sea- and water-fowl." The other bird was killed in Lower Mystic Pond in October, 1902, by Charles Sunergren who lives on the shore of the pond." I have further learned from Mr. Warren E. Freeman, a son of Mr. George Freeman, that in October, 1904, — about the 10th of the month, he thinks — he examined a freshly killed Holboëll's Grebe which had been taken in Spy Pond. The gunner in whose possession he found it refused to part with the bird and Mr. Freeman does not know what afterwards became of it.

2. *Colymbus auritus* Linn.

HORNED GREBE.

Transient visitor, uncommon in autumn, very rare in spring.

SEASONAL OCCURRENCE.

March 26, 1896, one male¹ taken, Lower Mystic Pond, A. Franklin.

October 2, 1894, one im. taken, Lower Mystic Pond, G. B. Frazar.

November 9, 1902, one seen, Fresh Pond, P. T. Coolidge.

The Horned Grebe occurs abundantly along the Massachusetts coast during the spring and autumn migrations, and is not uncommon there in winter, also, but it does not visit the waters of the Cambridge Region at all regularly or frequently. I have never personally met with it in any of them, but my collection includes the skins of two young birds which were killed in Fresh Pond, one on October 13, 1882, the other during the same month of the following year. Both were taken by Mr. Charles R. Lamb, in whose note-book, under date of October, 1882, I find the following entry: "Horned Grebes were common in Fresh Pond during this month, from about the 8th to the 25th or not quite so late. I saw two or three nearly every morning, and should say that at least ten or a dozen were shot. As a rule they occurred singly and were very shy, diving or flying when approached. On the morning of the 17th, however, three very tame birds were seen together." Mr. Harold Bowditch tells me that in 1902 he noted a Horned Grebe in Fresh Pond nearly every day from October 25 to November 3, and that a bird, which he believes to have been the same individual, was seen there on November 9 by his friend, Mr. Philip T. Coolidge.

I have a Horned Grebe in nearly full breeding plumage which Mr. Arthur Franklin of West Medford shot in Lower Mystic Pond on March 26, 1896, and Mr. George B. Frazar has shown me a young bird which he took in this pond on October 2, 1904. Mr. Walter Faxon informs me that there is a mounted specimen in Arlington, which was killed in Spy Pond about thirty years ago.

¹ No. 46,153, collection of William Brewster.

3. *Podilymbus podiceps* (Linn.).

PIED-BILLED GREBE. DIPPER.

Transient visitor, common in autumn ; formerly found breeding in one locality.

SEASONAL OCCURRENCE.

March 22, 1894, two seen, Great Meadow, W. Faxon.

April 6 — November 10.

November 22, 1897, one seen, Fresh Pond, O. A. Lothrop.

NESTING DATES.

April 23 — 30.

On June 13, 1891, Mr. Walter Faxon found a number of Pied-billed Grebes breeding at Great Meadow. There can be little doubt that they had been established there for some time previous to this, for the shallow, brush-grown reservoir which they inhabited had then been in existence for nearly twenty years. On the occasion just mentioned, Mr. Faxon saw or heard at least six or eight different birds, one of which was accompanied by chicks only a few days old, and on April 27, 1892, he discovered a nest containing five fresh eggs.

During the following eight years Great Meadow was frequently visited by our local ornithologists, and the manners and customs of the Grebes were closely studied. One or two birds often appeared in the pond as soon as it was free from ice — this sometimes happening before the close of March — and by the middle of April the full colony was usually re-established. It was difficult to judge as to how many members it contained, for they were given to haunting the flooded thickets, and we seldom saw more than three or four of them on any one occasion ; but at times, especially in the early morning and late afternoon when the weather was clear and calm, their loud cuckoo-like calls and odd whinnying outcries would come in quick succession from so many different parts of the pond that one might have thought there were scores of birds. Probably the total number of pairs did not ever exceed a dozen, while during some seasons there were apparently not more than five or six. They built their interesting floating nests in water a foot or more in depth, anchoring them to the stems of the sweet gale and button bushes, and laying from five to eight eggs which usually were covered by the bird whenever she left them. Although a few sets of eggs were taken by collectors, the Grebes reared a fair number

of young every season, and without doubt they would have continued to resort to Great Meadow for an indefinite period, had not the reservoir been abandoned, and its waters almost completely drained, in the autumn of 1901; since then the birds have ceased, of course, to frequent the place.

The locality just mentioned is the only one in the Cambridge Region where the Pied-billed Grebe is known to have been found breeding; everywhere else it is of rare occurrence in spring, but in September and October migrating birds alight rather frequently in most of our ponds, preferring those which have shallow, weed-grown coves, and sometimes lingering for weeks at a time if not too much disturbed by the gunners. They also used to frequent the reaches of Charles River lying between the Cambridge Cemetery and the Watertown Arsenal, and they have been seen there occasionally within the past few years.

4. *Gavia imber* (Gunn.).

LOON.

Transient visitor in spring and autumn, of rare occurrence during recent years.

SEASONAL OCCURRENCE.

April 26, 1905, one seen, Fresh Pond, H. Bowditch and R. S. Eustis.

May 6, 1879, two seen, Fresh Pond, W. Brewster.

October 3, 1868, one seen, Fresh Pond, W. Brewster.

December 1, 1902, one male¹ taken, Belmont, T. Mahoney.

I have noted single Loons in Fresh Pond on October 3, 1868, May 5, 1869, and November 23, 1870, while on May 5 and 6, 1879, I observed two birds, no doubt a pair, swimming together off Hemlock Point. Mr. O. A. Lothrop tells me that one appeared in this pond on October 21, 1899, remaining until the 26th. Another, which was seen there almost daily from November 19 to December 1, 1902, became so tame that several of my friends approached it within a few yards as it was fishing close to shore. Unfortunately it was not content to spend its entire time in this sheet of water, but established a habit of flying to a flooded clay-pit in the eastern part of Belmont where it was shot, late in the afternoon of December 1, by Thomas Mahoney, a young sportsman, who brought the bird to me that same evening. The two instances last mentioned

¹ No. 30,445, collection of William Brewster.

are the only ones known to me of the occurrence of the species in Fresh Pond during the last twenty years.¹

Loons occasionally visit the Mystic Ponds, and Mr. W. A. Jeffries tells me that he has seen them, on one or two occasions, flying over the Back Bay Basin; he does not think, however, that they ever alight there.

5. *Gavia lumme* (Gunn.).

RED-THROATED LOON.

Very rare transient visitor in autumn.

I am indebted to my friend Mr. Ruthven Deane for the skin of a young male Red-throated Loon which he shot in Fresh Pond on October 21, 1871. This is the only record that my notes supply for the Cambridge Region, although the species occurs commonly enough at its seasons of migration, and not uncommonly in winter, along the neighboring seacoast.

6. *Uria lomvia* (Linn.).

BRÜNNICH'S MURRE.

Rare visitor in late autumn and winter.

On December 11, 1901, a Brünnich's Murre was seen in the Back Bay Basin very close to Harvard Bridge by Mr. Harold Bowditch and Mr. John T. Nichols. At one time it was nearly beneath them, and as they had a good glass they feel confident that no mistake was made concerning its identity. I am equally sure of that of a young Murre which I found in Fresh Pond on the morning of November 30, 1902. It was swimming in deep water about two hundred yards from the end of Hemlock Point and not far from an immense flock of Herring Gulls. During the twenty minutes or more that I spent watching it, it remained in nearly the same spot, busily employed in preening its feathers.

¹ Just as this paper is going to press I learn that a Loon, apparently in immature plumage, was seen in Fresh Pond on April 26, 1905, by Mr. Harold Bowditch and Mr. Richard S. Eustis.

Through the powerful field telescope that I had with me I could make out clearly the shape and proportions of the bill and the characteristic lines of demarkation between the black and white on the cheeks and throat which distinguish the young of Brünnich's from that of the Common Murre. Indeed the identification of the bird was almost as satisfactory to me at the time as if I had held it in my hand. It was seen in the pond later that same day by Mr. Walter Deane, but neither of us succeeded in finding it there the next morning.

Although Brünnich's Murre occurs inland oftener than do any other of the Alcidae, its visits to the fresh-water ponds and rivers of New England appear to be made only at wide and irregular intervals. It is a rather common winter resident along our seacoast.

7. *Alle alle* (Linn.).

DOVEKIE. LITTLE AUK.

Transient visitor in late autumn or winter, occurring infrequently and at irregular intervals, but sometimes abundantly.

Like the Puffin and the Razor-billed Auk, the Dovekie loves the open ocean, but unlike them it is apparently unable to remain at sea during every kind of weather, for exceptionally heavy gales, occurring late in autumn, or in winter, sometimes drive it inland in considerable numbers. Indeed it is probable that the memorable flight which inundated eastern Massachusetts on November 15, 1871,¹ comprised nearly, if not quite all, the birds which were living at that time off our coast.

On the date just named a violent easterly storm, accompanied by torrents of rain and an exceptionally high tide, forced multitudes of Dovekies to seek refuge in the fresh-water ponds and rivers near the coast, and many birds were picked up in an exhausted condition in fields, meadows, barnyards, and even in our city streets. Within the area to which this paper relates they appeared in the greatest numbers in Charles River between Cambridge and Waltham; in the Mystic Ponds; and in Fresh Pond. The sheet of water last named was visited by hundreds, which came in singly or by twos and threes, and occasionally in flocks

¹ I have two specimens which I shot during this flight, one, no. 4135, on the 16th in Fresh Pond, the other, no. 4136, on the 17th in Charles River near the Cambridge Cemetery.

of from ten or a dozen to thirty or forty individuals each. The larger flocks often rose and left the pond, when disturbed, but the single birds, although somewhat restless, were absurdly tame. Some of them were taken alive, others killed with oars, and very many shot by collectors or sportsmen, fifty or more being captured in all. Several killed on the 16th and 17th had their stomachs filled with the remains of young alewives, which in those days abounded in Fresh Pond.

No inroad at all approaching in magnitude the one just mentioned has since occurred in this region, but my notes supply the following records of smaller, subsequent flights of Dovekies.

1876, February 21. A single bird, alive but exhausted, picked up in Lexington by a farmer.

1876, November 20. A heavy northeaster, the wind blowing a gale all day, prostrating telegraph poles, wrecking dilapidated buildings and doing much damage to shipping. On this and the following two days a few Little Auks were seen in or near Cambridge, and one or two were taken. A flock was reported in Mystic River. I did not hear that any were met with very far inland.

1878, November 22. An easterly storm of considerable energy accompanied by sleety rain and an exceptionally high tide. Three Dovekies were taken in Charles River just above Waltham, and a fourth was caught alive in a coal-yard on Brighton (now Boylston) Street, Cambridge. Still another was found dead on November 26, in a market garden in Arlington.

[1888, November 25. A furious northeaster swept the entire coast of New England today. The wind at times reached a velocity of eighty miles an hour. About six inches of snow fell. These conditions should have caused a heavy flight of Little Auks, but only two specimens have been reported. One of them was exposed for sale in Quincy Market, Boston, the other was brought to one of the Boston taxidermists. Both were said to have been taken near Boston, but just where I was unable to ascertain.]

1892, November 3. There was a heavy rainstorm today. A Little Auk, mounted by Mr. M. Abbott Frazar, was shot in one of the Mystic Ponds on this date. Another, sent to Mr. James T. Clark for preservation, was captured about the same time in an empty freight car standing, with open door, on a siding at West Dedham.

Nuttall, writing of the Little Auks, says:¹ "Those which have been obtained in this vicinity, usually in the depth of winter, have sometimes been found in Fresh Pond, and so lean and exhausted, by buffeting weather and fatigue as to allow themselves to be quietly taken up by the hand." This statement is somewhat ambiguous, inasmuch as Fresh Pond is ordinarily closed by ice during the 'depth of winter,' at which season, however, Dovekies may often be found in *salt water* along the seacoast near Boston.

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Water Birds, 1834, 532.

8. *Larus glaucus* Brünn.

GLAUCOUS GULL. BURGOMASTER.

Rare winter visitor, occurring from November to April.

Of the five instances, undoubted or probable, that have come to my knowledge, of the occurrence of the Glaucous Gull in the Cambridge Region, three relate to birds which have been found in the Back Bay Basin. One of these birds, now in the collection of Messrs. E. A. and O. Bangs, was killed by a gunner on April 4, 1881. Another, taken in December, 1882, was mounted by Mr. Pertia W. Aldrich, a well-known Boston taxidermist of former days, in whose possession I saw it in April, 1883, writing at the time, in my note-book, that it "seems to be a fully adult specimen in winter plumage." It was afterwards purchased by the late Mr. Gordon Plummer and is now in the collection of the Brookline (Massachusetts) High School. The third bird was observed by Mr. Glover M. Allen, who writes me as follows regarding it: "On January 20, 1905, I was crossing Harvard Bridge on the front platform of an inward-bound car, when my attention was drawn to a Gull that seemed pure white all over. It was standing on the ice near the edge of an open space at the Boston end of the bridge, about half-way between the bridge and the large culvert where the waters from the Fens empty. The sun was in the east and hence shone full on the bird, so that the conditions were as favorable as possible for observing colors. There was no pearly mantle visible, nor any dark markings on the wings. The bird stood out with a ghostly distinctness against the gray background of the ice. . . . Two days later, while walking out over the bridge at a little before sunset, I again saw what I took to be the same bird, but this time it was farther off, and the light was behind it, as it stood on the ice near the open space. I do not feel that these observations are very conclusive, but in my own mind I have little doubt that the bird seen on January 20 was a Burgomaster."

Although Mr. Allen's observations are certainly not 'conclusive,' they seem to me worth giving in view of the fact that about six weeks later a Gull similar in appearance to the one reported by him, and perhaps the same bird, appeared along the upper tidal reaches of Charles River, where it was noted first on March 4, and very frequently afterwards up to the 17th of the month, by Miss Adelaide Stockwell who is known to me as a careful and discriminating student of birds. She tells me that she saw the white Gull at various places along the river from the bridge near the center of Watertown to the Arsenal a

mile or more below, that it was always accompanied by a number of Herring Gulls and occasionally by a few Black-backed Gulls, that she had repeated opportunities for comparing it with these species, and that on several occasions it was very near her, sometimes on wing, sometimes standing on a cake of ice. It seemed to be of about the size of a large Herring Gull, and its entire plumage, including that of the wings, was pure white. The legs and feet were light-colored, as was the bill except for a dark space at the tip. In short her description leaves no doubt in my mind that the bird was a Glaucous Gull in the immature or '*hutchinsii*' plumage.

On November 29, 1899, I found a Glaucous Gull in Fresh Pond. Like the bird seen at Watertown by Miss Stockwell it was in the '*hutchinsii*' plumage, *i. e.*, wholly white, without trace of blue in the mantle or of mottling anywhere. Its bill, which was flesh-colored with a dark band near the tip, appeared somewhat larger than the bills of the numerous Herring Gulls by which it was closely surrounded. I could see all this distinctly with a strong glass, for the bird was in a good light and at no great distance. During most of the time that I spent watching it, it remained apparently asleep with its head buried among the scapular feathers, slowly revolving as it drifted before a light wind. Every now and then, however, it would rouse itself and preen its plumage for a few minutes before lapsing into unconsciousness again.

9. *Larus leucopterus* Faber.

ICELAND GULL. . WHITE-WINGED GULL.

Winter visitor of infrequent if not rare occurrence.

Messrs. E. A. and O. Bangs have an immature Iceland Gull which they took on January 31, 1880, in the Back Bay Basin where it was flying about, near the Milldam, "in company with another of the same species."¹ A third bird of similar size and appearance was seen here by Mr. Outram Bangs on January 15, 1894, and a fourth by Mr. W. A. Jeffries on February 11 of the same winter. A fifth, shot by a boy on November 4, 1897, was flying over the Glacialis, into which it fell, remaining in the water until two days later when Mr. O. A. Lothrop found it floating within reach of shore. It is one of a number of exceptionally rare or interesting specimens which the gentleman last named has been kind and generous enough to contribute to my collection.

¹ E. A. and O. Bangs, Bulletin of the Nuttall Ornithological Club, VI, 1881, 124.

On December 11, 1897, I saw an Iceland Gull in Fresh Pond, about three hundred yards from shore, off the end of Hemlock Point. It was so much smaller and lighter colored than any of the young Herring Gulls which were swimming close about it that it attracted my attention the moment it came within the field of my glass, a small telescope of considerable power, through which I watched it for half an hour or more. It was a young bird lacking all traces of bluish on the mantle and having the primaries (which it was obliging enough to twice display by slowly raising and opening its wings) of a nearly uniform light brownish color.

In the neighborhood of Eastport, Maine, and St. John, New Brunswick, young Iceland Gulls occur rather commonly in winter in company with about equal numbers of adult Kumlien's Gulls. I have never seen a fully mature bird of the former species from any part of the Atlantic coast south of Newfoundland, and the young of the latter remain unknown or, at all events, unrecognized. These facts have led me to suspect that at least some of the young birds which pass as *leucopterus* may really be *kumlieni*. For the purpose of investigating this question I have brought together a rather large series of specimens, but such study as I have been able to give them has failed to produce any definite results. The chief difficulty has been that I have found no opportunity of comparing them with *fully identified* young of *leucopterus*, for all the supposed specimens of the latter which I have examined came from localities where *kumlieni* is also known or likely to occur.

Several years ago, Mr. Gerritt S. Miller, Jr., was kind enough to take two skins, which illustrate the extremes of dark and light coloring (there is much variation in this respect) represented by my series, to England where he showed them to Mr. Howard Saunders, who, under date of July 20, 1894, wrote me as follows regarding them: "Miller turns up with the Gulls and we went over them and the British Museum series—not a grand one, but sufficient. On the evidence I think he [Mr. Miller] agrees with me that your birds are both *L. leucopterus* and that young *kumlieni* is yet to be found. . . . Why *kumlieni* adult should come down to Bay of Fundy, etc., and not the young, is a puzzle. . . . As for young *kumlieni*, I expect it will prove to be, as Kumlien says, a very dark bird, like young of *L. glaucescens*."¹

¹In the Auk for January, 1906, Dr. Jonathan Dwight describes and discusses (on pages 36-41) what he feels "convinced is the undescribed plumage of the young" Kumlien's Gull. I am by no means satisfied that his young birds (one of which I have examined) are really *kumlieni*, although I consider it probable that in referring them to this species he has made no mistake.

10. *Larus marinus* Linn.

GREAT BLACK-BACKED GULL. BLACK-BACKED GULL. BLACK-BACK.

Common winter resident.

SEASONAL OCCURRENCE.

November 19, 1868, several seen, Fresh Pond, W. Brewster.

December 1 — April 15.

April 25, 1904, one seen, Back Bay Basin, R. S. Eustis.

On our seacoast the Black-backed Gulls arrive from the North early in September and linger well into May. They seldom appear inland before the latter part of November or after the 15th of April, but within this period they may be seen frequently, and at times constantly, for weeks in succession, flying about over the Back Bay Basin with the Herring Gulls, in whose company they also occasionally visit Fresh, Spy, and the Mystic Ponds. It is unusual to note more than three or four Black-backs at any one time about such land-locked waters, although, on several occasions, I have known this number to be considerably exceeded in the Back Bay Basin. The adults with their strongly contrasting sable backs and snow-white heads and tails — which give them, especially when they are soaring in circles, a superficial resemblance to adult Bald Eagles — are conspicuous and easily recognized birds, but the young are colored so nearly like those of the Herring Gull as to be frequently mistaken for the latter, despite the fact that the Black-back is decidedly the larger of the two. It is one of the wariest of all birds, and few if any specimens have ever been taken in our neighborhood.

Dr. Townsend has reported seeing a few Black-backed Gulls "during the summer of 1903," and no less than seven adults on July 17, 1904, at Ipswich, Massachusetts.¹ On July 18, 1890, I found at least thirty or forty birds, all but two or three of which were in the grayish immature plumage, at Great South Pond, a brackish sheet of water lying just within the beach ridge on the south side of the island of Martha's Vineyard. Such instances of local occurrence in midsummer afford no evidence, however, that the species ever breeds in Massachusetts, for the birds to which they relate are believed to be invariably barren individuals.

¹C. W. Townsend, *Memoirs of the Nuttall Ornithological Club*, no. III. *Birds of Essex County, Massachusetts*, 1905, 90.

11. *Larus argentatus* Brünn.

HERRING GULL. SEA GULL. GRAY GULL.

Abundant winter resident.

SEASONAL OCCURRENCE.

August 18, 1902, one seen, Cambridge, W. Deane.

October 15 — May 8.

May 20, 1905, flock of eight seen, Fresh Pond, G. C. Deane.

At certain places along our coast, such as Ipswich and the shores of Cape Cod, a good many immature and barren Herring Gulls spend the entire summer.¹ The breeding adults, with their dark brown young, also begin to arrive from the North at these and other coastwise localities early in September. Herring Gulls seldom visit land-locked waters in Massachusetts, however, between May 15 and October 15 following. About the latter date a few birds appear in the Back Bay Basin, but they do not become really numerous there until the 10th to the 15th of November. From this time until well into April they are almost constantly present, enlivening the wide expanse of water or fields of drifting ice by their picturesque forms and graceful flight. Their numbers vary greatly from day to day, according to the tides, the weather, and the condition and extent of the ice. Sometimes there are but a dozen or so, ordinarily from fifty to a hundred, on exceptional occasions from three to four or five hundred. From the Basin they follow up the Charles River to Watertown; and when Fresh, Spy, and the Mystic Ponds are open they resort to them daily in considerable numbers, passing over the intervening land at a great height in compact flocks which are sometimes mistaken for those of migrating Geese. In calm weather they alight in these ponds, forming beds at a safe distance from shore and spending hours at a time preening their feathers or floating idly on the smooth surface. When there is a strong wind they scatter and fly about in search of

¹ In his 'Birds of Essex County' (Memoirs of the Nuttall Ornithological Club, no. III. Birds of Essex County, Massachusetts, 1905, 91-98), published since the above passage was written, Dr. C. W. Townsend gives a full and most interesting account of his observations on the Herring Gulls at Ipswich. Among the birds present there in early summer he regularly finds a varying but usually small percentage of adults in full nuptial plumage. For reasons which he gives at considerable length he considers it "reasonable to suppose that some, perhaps only a few, of these Gulls are daily excursionists from their breeding places [on the Maine coast] to the beaches of Essex County for the food to be found there."

food, picking up many a dead fish that would otherwise remain to pollute the water. So far from appreciating this useful service—to say nothing of the attraction which the presence of so many large and beautiful birds lends to such a place—the park keepers at Fresh Pond, acting it is said, under direct orders from the officials of the Cambridge Water Board, have repeatedly attempted to drive the Gulls away by shooting at them with rifles. Whenever the birds have been unmolested for a time they have visited the pond very regularly in autumn, and within recent years in constantly increasing numbers. On December 23, 1900, there were fully a thousand there, and on Christmas Day of the same year Mr. Walter Deane counted 1375 collected in and about an opening in the ice, while he estimated the number present on the morning of November 30, 1902, at upwards of 2400.

Within the past few years the proportion of young to adult birds among the Herring Gulls which pass the winter in the neighborhood of Boston, has very materially increased, a fact which indicates that the protection afforded, under Mr. William Dutcher's supervision, to the breeding colonies scattered along the coast of Maine, has been conducted faithfully and with marked practical success.

12. *Larus philadelphia* (Ord).

BONAPARTE'S GULL.

Rare transient visitor in spring.

Dr. C. W. Townsend tells me that on April 7, 1905, he observed a Bonaparte's Gull on wing near the Union Boat House on the Boston side of the Back Bay Basin. As it was in full nuptial plumage, and as its dark plumbeous head and reddish orange legs and feet were distinctly made out by Dr. Townsend, his identification of the bird may be accepted without hesitation.

Messrs. Francis G. and Morris C. Blake have reported¹ seeing a Gull which they referred to this species "flying over the Charles River near the Harvard Bridge, May 14, 1904." This record is too brief and vague to be wholly satisfactory.

Bonaparte's Gull is of common occurrence (especially in autumn) along the Massachusetts coast, and, as it is also perfectly at home about inland waters, such as Lake Umbagog, there would seem to be no good reasons why it should

¹ F. G. and M. C. Blake, *Auk*, XXI, 1904, 391.

not visit our larger fresh-water ponds, as well as the Back Bay Basin, with some frequency and regularity. The two records just given are, however, the only ones known to me which relate to the Cambridge Region.

13. *Sterna hirundo* Linn.

COMMON TERN. WILSON'S TERN.

Very rare transient visitor.

On September 11, 1868, I saw a Tern which I took to be a Wilson's flying about over Spy Pond. Three days later another (or possibly the same) bird was shot at Fresh Pond by one of my friends, who brought it to me for identification. It proved to be an adult Common Tern. The specimen, unfortunately, was not preserved.

A few Wilson's Terns continued to breed, up to within the past twenty-five or thirty years, on some small, rocky islands off Swampscott, but along this and neighboring portions of our seacoast they are now seldom seen excepting at their seasons of migration, when they still occur commonly enough, especially in late August and early September.

14. *Oceanodroma leucorhoa* (Vieill.).

LEACH'S PETREL. MOTHER CAREY'S CHICKEN.

Rare transient visitor in autumn.

Leach's Petrel occasionally visits our fresh-water ponds and rivers, where it is likely to appear quite as often in fine as in stormy weather, but only, I believe, during the period when it is migrating southward in autumn. On October 8, 1870 — a brilliantly clear day — I shot a female in Fresh Pond. It came in at daybreak and, after flying about for a few minutes, alighted well out from shore and began pluming itself and sipping the water, taking, apparently, no heed of the boat in which I approached it within close gun-range. This specimen is still in my collection. I have another — a young male — which was killed by a boy on October 7, 1896, in the Lower Mystic Pond.

It is probable that Leach's Petrel also appears in the Back Bay Basin on rare occasions, for Dr. Charles W. Townsend tells me that in September or October, 1898 or 1899, he saw what he took to be a bird of this species flying about near Harvard Bridge.

No other instances of occurrence relating to the Cambridge Region are at present known to me, but a Petrel, supposed to have been a Leach's, was seen by my friend, Mr. Daniel C. French, skimming over the Sudbury River at Fairhaven Bay, Concord, some time in the autumn of 1870 (if I remember rightly), and Mr. Charles J. Paine, Jr., has given me the skin of a bird that was shot by his brother, Mr. John B. Paine, on October 14, 1904, at Wayland, where it was flying over the marshes that border the Sudbury River just below the old stone bridge. There is also a published record by Mr. A. P. Morse¹ of a Leach's Petrel which was taken at Farm Pond, Framingham.

It is an interesting fact that Wilson's Petrel, although much more numerously represented in summer off our coast than is the species just considered, has never been found at any inland locality in Massachusetts.

15. *Phalacrocorax dilophus* (Swains.).

DOUBLE-CRESTED CORMORANT.

Accidental visitor in autumn.

On September 16, 1889, Mr. William P. Hadley and Mr. E. B. Winship saw a flock of about a dozen Cormorants, all apparently alike, flying over Great Meadow, which, at that time, was covered with water. The birds finally alighted well out from shore, when Mr. Hadley and his companion, after procuring a boat, approached them within long gun-range and shot two of them. One of these specimens was skinned by Mr. J. R. Mann and has since come into my possession. It is a young female Double-crested Cormorant in its first winter plumage.

I know of no other instance of the appearance of the species in the Cambridge Region, but I have seen it once at Concord, Massachusetts, and it occurs regularly and rather commonly, especially in autumn, at Ipswich, Nahant and various other places along our seacoast.

¹A. P. Morse, *Birds of Wellesley and Vicinity*, 1897, 11.

16. *Merganser americanus* (Cass.).

AMERICAN MERGANSER. GOOSANDER. SHIELDRAKE.

Of rather rare occurrence in autumn and winter.

At sunrise on November 22, 1867, I saw a flock of about thirty American Mergansers alight near the middle of Fresh Pond. Two birds of the same species, which had been feeding close in under the land, but which up to this time I had not noticed, swam out and, joining the others, soon returned with them. The flock then spread over a considerable space along the rocky shore near the Tudor boathouse (long since removed), some of its members landing on a pebbly beach to preen their feathers, others half swimming, half wading, in the shallow water, many diving for fish, and a few well out in the pond cruising about, with heads erect, on the watch for danger. All were females or immature males. I approached them under cover of the boathouse and, waiting until three birds came together, fired, killing two and wounding a third which was afterwards secured by another gunner. Still earlier that same autumn (on October 12) I had taken a solitary Goosander (a young male) in Fresh Pond, and on December 8 of the following year I saw there two males in fully adult plumage which were accompanied by a female or immature male. I preserved the bird killed on October 12, 1867, as well as one of those taken the following month, but neither of these specimens is now in existence. There can be no question as to their identity, however, for I had them both in my possession up to 1874, when I had become perfectly familiar with the rather nice points of difference which distinguish females and young males of the present species from those of the Red-breasted Merganser.

I have heard that the American Merganser sometimes visits Spy Pond. Mr. John H. Hardy, Jr., assures me that he has seen it there several times and that on one occasion, about twenty years ago, he observed a flock containing ten or a dozen birds.

Mr. Walter Deane tells me that in January, 1904, some Goosanders appeared in Charles River near the Cambridge Hospital. The weather was bitterly cold at the time, and most of the river thickly encased in ice, but there were a few spaces of open water where the birds alighted to swim about and dive for fish. On January 14 he noted an adult male and five females or young males with crested, rufous brown heads; on the 17th two adult males and nine females or young males; on the 24th an adult male and one female or young male.

The adult males were in fully mature plumage, and Mr. Deane got sufficiently near them to make out all their characteristic markings with absolute certainty.

Up to within the past five or six years I have found the American Merganser regularly, and during some seasons abundantly, in March and April, on the flooded meadows along Concord River, all the way from Wayland to Bedford, but the instances above mentioned are the only ones definitely known to me of its occurrence in the Cambridge Region.

17. Merganser serrator (Linn.).

RED-BREASTED MERGANSER. SHELDRAKE.

Uncommon transient visitor in late autumn.

SEASONAL OCCURRENCE.

November 17, 1900, one seen, Fresh Pond, O. A. Lothrop.

December 29, 1866, one ad. male seen, Fresh Pond, W. Brewster.

As the Red-breasted Merganser is of regular and very common occurrence in Boston Harbor during autumn, winter and early spring, one would suppose that, like the Whistler, it would also frequent the Back Bay Basin, but Mr. W. A. Jeffries has never known it to alight there although he occasionally sees small flocks passing and repassing rather high over the water.

On December 29, 1866, I noted a solitary bird in Fresh Pond, where it was swimming close under the steep northern shore of Hemlock Point; as it was a male in fully mature plumage, and at one time within a few yards of me, there can be no question as to the correctness of my identification.

Mr. O. A. Lothrop is equally sure that two adult male Sheldrakes which he saw together in this pond on November 24, 1897, and a single bird which he found there on November 17, 18, 28, and 30, 1900, were Red-breasted Mergansers. I also learn from Mr. John H. Hardy, Jr., that he has killed representatives of this species in Spy Pond and in the Mystic Ponds.

18. *Lophodytes cucullatus* (Linn.).

HOODED MERGANSER.

Transient visitor in autumn, formerly common.

SEASONAL OCCURRENCE.

August 11, 1863, one im. female taken, Fresh Pond Swamps, W. Brewster.

November 10—30.

December 22, 1898, one seen, Fresh Pond, O. A. Lothrop.

The late Dr. Samuel Cabot told me, shortly before his death, that Hooded Mergansers occurred numerous in the Fresh Pond Swamps when he was at Harvard College (1832-1836). He used to find them oftenest in the secluded pools and reaches along Alewife Brook, where he killed numbers of young birds in autumn and, on one occasion, a fine drake in full plumage, with its mate, in spring. He did not think, however, that they bred in or near Cambridge at that time.

From 1867 to 1875, and probably for several years later, the Hooded Merganser visited Fresh, Glacialis, Little, Spy, and Mystic Ponds regularly each autumn, and late in November was often more numerous than any other kind of Duck. In Fresh Pond, during this period, I occasionally saw flocks containing upwards of thirty or forty members each, although ordinarily not more than ten or fifteen birds would be found together. They frequented sheltered coves and were incessantly diving for food in the shallow water near shore, or close to the edges of the ice when the ponds were partly frozen over. They were so very alert and wary that it was most difficult to approach them, and but few were killed by the gunners. I do not remember ever seeing a fully adult male among them, nor have I ever met with the species here in spring. On August 11, 1868, however, I shot a female in Little River a few hundred yards below Little Pond. This specimen was a young bird—so very young, in fact, that I have sometimes thought that it may have been hatched not far from the spot where it was killed, although it was fully feathered and quite able to fly well. It remained in my collection for a number of years, but finally was destroyed by moths.

During the past twenty years or more the Hooded Merganser has been steadily decreasing in numbers throughout New England, and it is fast becoming a positively rare visitor to eastern Massachusetts. Mr. Walter Faxon tells me

that a wing-broken specimen was caught alive on the ice at Spy Pond on December 20, 1896, and Mr. O. A. Lothrop saw a solitary bird on October 25, and another on December 22, 1898, in Fresh Pond, where I also noted one on November 20, 1899. These instances are all that I can give of the occurrence of the species in the Cambridge Region within the last ten years.

19. *Anas boschas* Linn.

MALLARD.

Of regular if sparing occurrence in autumn during the past nine years, especially at Fresh Pond. No early records for the Cambridge Region.

SEASONAL OCCURRENCE.

October 19, 1900, one ad. male seen, Fresh Pond, O. A. Lothrop.

December 26, 1900, one ad. male seen, Fresh Pond, W. Brewster.

During the earlier years of my shooting experience the Mallard was unknown to our local gunners, and everywhere throughout New England was considered a rare bird. Within the past decade, however, it has become a regular and not uncommon visitor in autumn to several localities in eastern Massachusetts, especially to certain of the ponds near Boston.

My first record for Fresh Pond is that of a female which I saw on December 11, 1897, in company with five Black Ducks and a pair of Green-winged Teal. On October 25 of the following year a single drake was seen by Mr. O. A. Lothrop. In 1899 from one to three birds were almost constantly present between October 30 and December 25, and on November 20 two adult males were seen together; after this date there was a single drake, often accompanied by one and occasionally by two females. Hence at least four different birds must have visited the pond that autumn. In 1900 a drake in full plumage appeared on October 19 and was seen at frequent intervals up to December 26. My only record for 1901 is that of an adult male which I noted on November 21, and for 1902 that of a female seen by me on December 1.

All these Mallards were, no doubt, attracted to Fresh Pond by the ever present Black Ducks, in whose company they were invariably found. Some of them tarried for a day or two only; others remained considerably longer; and in 1899 and 1900 at least one bird — a drake — stayed on week after week until the pond was completely closed by ice. Doubtless he learned to appreciate

the safe asylum which it afforded by day, and at night he probably accompanied the Black Ducks to their feeding grounds in the tidal creeks of the Revere or Lynn Marshes, while it is not improbable that he spent both winters with them off the neighboring coast.

Mr. Walter Faxon tells me that a gunner of his acquaintance killed a Mallard in one of the Mystic Ponds a few years ago, and Mr. John H. Hardy, Jr., includes the species in a list of the water-fowl which he has shot at Great Meadow.

20. *Anas obscura* Gmel.

BLACK DUCK.

Very common transient visitor in spring and autumn and not uncommon summer resident.

SEASONAL OCCURRENCE.

March 15 — November 1.

NESTING DATE.

April 19, 1897, nest and thirteen eggs, Pout Pond Swamp, O. A. Lothrop.

21. *Anas obscura rubripes* Brewst.

RED-LEGGED BLACK DUCK.

Of abundant occurrence during the migrations in late autumn and early spring ; also resident in large numbers on our seacoast during the entire winter, visiting Fresh Pond daily whenever its waters are not closed by ice.

SEASONAL OCCURRENCE.

October 20 — March 15.

Unlike most of our water-fowl the Black Duck does not appear to have diminished greatly in numbers during the past thirty years. It is a singularly intelligent bird, and, despite its excessive shyness and its preference for remote solitudes, it is quick to perceive that the safest asylums may sometimes be found in places much frequented by man and constantly disturbed by sights and

sounds to which many other creatures, much less wary but also less discriminating, never become accustomed. Thus although it has ceased to frequent certain of our ponds which it used to visit regularly, it resorts to others oftener and in decidedly greater numbers than it did thirty or even sixty years ago. In Fresh Pond, for example, but few Black Ducks alighted between 1832 and 1840, according to information which I have received from Mr. J. Elliot Cabot, while most of those which occurred there during my own early experience merely passed overhead on migration although the pond then had extensive, reedy coves which attracted other kinds of surface-feeding water-fowl. No doubt the Black Ducks of those days knew full well that they were closely watched by ambushed gunners, and equally without doubt the birds of the present time have observed that shooting is no longer regularly practised at Fresh Pond; for although its coves have been filled, its beds of reeds obliterated, and a broad, much frequented driveway carried around its entire margin, one is now nearly sure of finding Black Ducks in this pond almost any day between the middle of August and the date when the water freezes over. They usually arrive in the early morning and spend the day near the middle of the pond where they float or paddle idly about, preening their plumage or sleeping in perfect security. The railroad trains which dash noisily along the eastern shores do not seem to alarm them, and they pay no attention whatever to the carriages and bicycles that traverse the parkway drive, but the report of a gun, however distant, will often cause them to rise suddenly and leave the pond. They invariably depart at nightfall, either on migration or for more or less distant feeding grounds.

Their numbers vary greatly from day to day and from month to month. In August it is unusual to see more than ten or a dozen at any one time; in September, more than twenty or thirty; in October, more than seventy-five or one hundred; but in November and December one may frequently count over one hundred and occasionally as many as two hundred and fifty. Most of the birds present in late November and in December, remain in our immediate neighborhood through the entire winter, visiting the pond by day whenever it is free from ice¹ and feeding by night in the tidal creeks and marshes near Lynn and Revere. Of these wintering Ducks the greater number, without doubt, belong to the form *rubripes*. Indeed we are often able to make out the chief distinguishing characters of this large northern race when the birds are swimming or flying near at hand. There can be little doubt that true *obscura* also occurs in winter, since it has been found sparingly at that season at Ipswich and elsewhere along the Massachusetts seacoast. To what extent its times of

¹On several occasions they have been seen in some numbers, standing or lying on the ice, after the pond was almost completely frozen over.

migration differ from those of *rubripes* we are not at present definitely informed, but it certainly moves southward earlier in autumn and probably returns somewhat later in spring.

In the days when the Cabots were at Harvard College, Alewife Brook and Little River abounded in secluded, grassy pools and reaches which attracted great numbers of Black as well as Wood Ducks, but the former species had nearly deserted these particular haunts before 1865. At that time and for some five years later, however, a great many Black Ducks were killed in Smith's Pond by a market gunner named Frost who shot from a brush stand over live decoys. Large flocks also occasionally alighted in Hardy's Pond, as did small ones or single birds in the Mystic Ponds, Pout Pond, the Glacialis, Bird's Pond, and Charles River.

In spring the Black Duck arrives long before our ponds are free from ice, but it finds an abundance of food and a reasonable degree of safety in flooded brook meadows or in pools of water formed by the melting snow in pastures or even among dense woods. To several places of this character, in the less settled parts of Belmont, Arlington and Waltham, it still resorts during the latter half of March and the greater part of April, usually in pairs or singly but not infrequently in flocks containing from ten or fifteen to thirty or forty birds each.

I am very positive that the Black Duck did not occur in summer near Cambridge between the years 1865 and 1880. Had it done so, its presence would almost certainly have been discovered, for during this period, and especially between 1868 and 1875, the whole Cambridge region was very frequently and thoroughly ransacked by good field observers. Nor did the Cabots find the bird breeding between 1832 and 1840, although Dr. Samuel Cabot, on one occasion in spring, shot a female whose oviduct contained an egg nearly ready to be laid.

In 1889 I saw a Black Duck near Fresh Pond on June 9, and in 1893, as I am informed by Mr. Walter Faxon, a nest with eggs was found among some bushes on the top of a hill not far from Great Meadow. On May 12 of the following year a brood of young only a few days old and accompanied by the parent bird was met with by Mr. George C. Shattuck in a brook meadow near the Lyman estate, Waltham, and a few days later another brood was found in Rock Meadow by a farmer who caught and took home five of its members. Since 1894 broods of young or nests with eggs have been reported nearly every season. During the past six or seven years one or two pairs of birds have bred regularly in the Fresh Pond Swamps where, on April 19, 1897, I was shown a nest *in situ*, with its set of thirteen eggs, by my friend, Mr. O. A. Lothrop. Mr. Alfred S. Swan writes me that in 1901 two ducklings of this species were captured in a bushy swamp near the outlet of the Lower Mystic Pond, Arling-

ton, by Mr. Everett S. Chapman, and that another brood was seen in the same place during the summer of 1902.

22. *Mareca americana* (Gmel.).

BALDPATE. AMERICAN WIDGEON.

Transient visitor in autumn, formerly not uncommon, rarely seen during recent years.

Dr. Samuel Cabot once told me that when he was at Harvard College (1832-1836) he used to kill American Widgeon regularly and in some numbers, in autumn, finding them either in Fresh Pond or along the then retired reaches of Alewife Brook between the outlet of this pond and the road (now Massachusetts Avenue) leading from Harvard Square to Menotomy (now Arlington). They must have nearly or quite ceased to frequent these localities before my shooting experience began, for I have never met with the species anywhere in the region about Cambridge. Nor can I learn of any recent instances of its occurrence there other than the following, for which I am indebted to Mr. O. A. Lothrop:—

On September 19, 1899, Mr. Alton H. Hathaway killed a female Baldpate at Pout Pond, over which, in company with two other birds of similar appearance, it was circling in the evening twilight. At this same pond, on the following evening, Mr. Lothrop saw a single Duck which he took to be a Baldpate, and on the evening of the 27th he shot one which proved to be a female of that species. It is not improbable that the bird seen on each of these latter two occasions was one and the same, and it may also have been one of the two Ducks which escaped Mr. Hathaway's gun on the evening of the 19th. Both of the specimens which were taken were mounted by Mr. Lothrop, who has since given me the one that he killed on the 27th.

It is difficult to understand why the American Widgeon has been noted so seldom of late in the Cambridge Region, for within recent years it has occurred rather commonly — although apparently somewhat irregularly — at other localities in eastern Massachusetts. In Wenham Lake (Essex County), for example, eleven birds were killed in 1903 and no less than nineteen in 1904, according to Dr. Townsend.¹

¹C. W. Townsend, *Memoirs of the Nuttall Ornithological Club*, no. III. Birds of Essex County, Massachusetts, 1905, 52.

23. *Nettion carolinensis* (Gmel.).

GREEN-WINGED TEAL.

Uncommon transient visitor.

SEASONAL OCCURRENCE.

April 4, 1868, two seen, Belmont, W. Brewster.

April 23, 1875, one female taken, Fresh Pond Marshes, J. Nesbitt.

September 6, 1871, one im. taken, Fresh Pond, W. Brewster.

December 13, 1899, one im. male seen, Fresh Pond, W. Brewster.

Although I know of but two instances of the local occurrence of the Green-winged Teal within the past fifteen years, I used to meet with the bird rather regularly and not so very infrequently — oftener in autumn than in spring but never in any numbers at either season. Perhaps it may be worth while to give a condensed summary of all my notes which relate to the field covered by this list.

April 4, 1868. Started two Green-winged Teal from a small brook in Belmont, near the railroad station now known as Hill's Crossing.

September 8, 1868. Shot one in the Fresh Pond Swamps.

September 12, 1868. Shot a young male in the Fresh Pond Swamps.

October 10, 1868. Started one from a ditch in the Fresh Pond Swamps.

October 19, 1868. Shot one in the Glacialis.

October 24, 1868. Found three swimming together in the Glacialis and killed them all at one shot. One was an adult male in full nuptial plumage; another (perhaps the mate of the first) an adult female; the third a young male in the plumage of the female.

November 4, 1868. Saw two birds swimming together in Hardy's Pond.

November 6, 1868. Found the two Teal again in Hardy's Pond this morning and shot one of them.

April 10, 1869. Saw a pair in Fresh Pond. The male was in full plumage.

September 12, 1870. One was shot in Fresh Pond.

October 4, 1870. The last bird of the season was killed in Fresh Pond today. These Teal have been unusually numerous here during the past few weeks.

September 6, 1871. A young bird was taken in Fresh Pond. It was among some tame ducks the owner of which said that the Teal had been living with them for the past ten days and that it had even accompanied them to the house when they were fed.

September 16, 1871. On this date I shot a young male in Muskrat Pond.

October 3, 1874. Shot one in the Fresh Pond Marshes.

April 23, 1875. A female was shot in the Fresh Pond Marshes by Mr. John Nesbitt.

November 10, 1888. Two birds were started from a pool in woods near Hardy's Pond, Waltham, by Mr. Alfred L. Danielson who killed one of them.

December 11, 1897. Saw a pair in Fresh Pond, swimming in deep water near the middle, in company with Black Ducks. The male Teal, as I easily made out by the aid of a powerful glass, was a young bird just passing into mature plumage.

December 13, 1899. Saw a young male in Fresh Pond in company with Black Ducks. Its plumage was similar to that of the male seen on December 11, 1897.

Mr. John H. Hardy, Jr., writes me that he has killed the Green-winged Teal both in Spy Pond and at Great Meadow, and that it has also occurred in the Mystic Ponds.

24. *Querquedula discors* (Linn.).

BLUE-WINGED TEAL.

Transient visitor, formerly of regular and very common occurrence in autumn.

SEASONAL OCCURRENCE.

April 11, 1898, two seen, Fresh Pond Swamps, O. A. Lothrop.

June 20, 1894, a pair of ad. birds taken, Spy Pond, W. E. Freeman.

August 30, 1876, Waltham, C. J. Maynard.

September 1 — 30.

October 25, 1898, two seen, Fresh Pond, O. A. Lothrop.

In the earlier years of my shooting experience the Blue-winged Teal was one of the most abundant of the water birds that visited the region about Cambridge in autumn, but since 1880 its numbers have steadily diminished, not only here but everywhere throughout New England, until now it is comparatively seldom met with. It used to appear very regularly in September, coming, as a rule, with the first light frosts and frequenting all our ponds, the Fresh Pond Swamps, and to some extent the courses of the larger brooks. During exceptionally wet seasons it also occasionally alighted in hollows in upland fields, pastures or even apple orchards, where rain water had collected in sufficient quantity to form shallow, temporary pools. I have only four spring records: the first, of a male which I saw flying over the Brickyard Swamp on May 4, 1868; the second, of a fully adult specimen of the same sex which I shot in this swamp on June 8 of the same year and which is still in my possession; the third, of two birds which were seen in the Fresh Pond Swamps on April 11, 1898, by Mr. O.

A. Lothrop; the fourth, of a pair of birds in high nuptial plumage preserved in the collection of Mr. Warren E. Freeman who shot them in Spy Pond on June 20, 1894. It is difficult to account for the presence here in June of Blue-winged Teal, except on the assumption that they occasionally breed in the Cambridge Region — which is not wholly improbable.

25. *Spatula clypeata* (Linn.).

SHOVELLER.

Very rare transient visitor.

Nuttall says incidentally¹ that he examined a pair of young Shovellers which were killed in Fresh Pond, obviously before 1834, and probably in autumn, although he does not mention either the year or month. The instance furnished by this ancient record is the only one known to me of the occurrence of the Shoveller in the Cambridge Region, while elsewhere in Massachusetts the bird has been, during the entire period covered by my experience, one of the very rarest of our surface-feeding Ducks.

26. *Dafila acuta* (Linn.).

PINTAIL. GRAY DUCK.

Rather rare transient visitor.

SEASONAL OCCURRENCE.

April 3, 1873, one ad. male taken, Cambridge, T. H. Eames.

October 2, 1882, five seen, one female² taken, Glacialis, C. R. Lamb.

December 21, 1899, one ad. male and one im. male seen, Fresh Pond, W. Brewster.

All but one of my local records for the Pintail relate to places now within the city limits of Cambridge; they are as follows: —

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Water Birds, 1834, 376.

² No. 8204, collection of William Brewster.

In the autumn of 1863 or 1864, either late in September or early in October, I shot a Pintail near the foot of Vassall Lane. It was flying across a meadow towards a pool which we used to call 'Muskrat Pond' from which I had started a similar-looking Duck about half an hour before. The specimen remained in my collection for a number of years, but was finally destroyed by moths. It was a brown bird and either a female or a young male.

Soon after sunrise on the morning of April 3, 1873, a fine drake Pintail in full plumage was shot by the late Thomas H. Eames in a marshy hollow filled with rain water on the Stimpson farm, not far from the present point of intersection of Huron Avenue and Appleton Street, a locality now thickly covered with houses. I examined this bird a few hours after it was killed; Mr. Eames had it mounted, but it was afterwards destroyed.

On October 2, 1882, a flock of five Pintails, flying over the Glacialis, passed within long gun-range of Mr. Charles R. Lamb, who shot one of them, a female, the skin of which is now in my collection.

In December, 1899, on the 13th and again on the 21st of the month, I saw two Pintails in Fresh Pond — the same individuals, no doubt, on both occasions. One was a fine old drake, the other a young male in a plumage about intermediate between that of the female and of the adult of its own sex. They were in company with a number of Black Ducks, but invariably kept close to one another.

Mr. William P. Hadley has shown me a young Pintail, apparently a female which he shot at Great Meadow some time in the autumn of 1899. It was a solitary bird, he tells me, and rather tame.

27. *Aix sponsa* (Linn.).

WOOD DUCK.

Formerly a very common transient visitor and not uncommon summer resident; now seen only at its seasons of migration, and then in no great numbers.

SEASONAL OCCURRENCE.

March 10, 1892, a pair seen (Concord), W. Brewster.

April 1 — 30. (Formerly in summer.)

September 15 — October 20.

October 26, 1867, one male taken, Fresh Pond Swamps, W. Brewster.

November 18, 1894, one ad. male¹ taken (Concord), W. Brewster.

¹ No. 30,702, collection of William Brewster.

I can remember when the strikingly beautiful and exceptionally interesting Wood Duck was one of the commonest of the water-fowl which frequented the inland ponds and rivers of eastern Massachusetts. In the Cambridge Region it occurred very regularly and really numerous in spring and autumn, and not uncommonly in summer. In spring it might be sometimes met with along the wooded reaches of Beaver Brook between Rock Meadow and the Waverley Oaks; in autumn it alighted more or less freely in Fresh, Smith's, Spy, and Bird's Ponds; at both seasons, as well as in summer, its favorite haunts were Pout Pond, the more retired stretches of Alewife Brook and Little River, and the shallow ponds and ditches scattered throughout the neighboring swamps.

During the earlier years of my field experience, or, to be more precise, from 1865 to 1872, it was by no means unusual to find Wood Ducks in midsummer at several of the localities just mentioned. When the young had become fully grown and strong on the wing, they were especially given to frequenting the Brickyard Swamp, where, in late August, I have seen scores of them in the course of a single evening, circling low, in small flocks, over the thicket-encircled pools. It is possible, of course, that some of the birds present during this month may have come from further north, but there can be no doubt that many of them were bred in the immediate neighborhood. Indeed I recall one occasion about the middle of June (in 1870, I think it was, but the date unfortunately has been mislaid), when I surprised a female Wood Duck, accompanied by ten or a dozen ducklings only a few days old, swimming in a sluggish brook near the outlet of Pout Pond.

In 1867 the proprietor of the Fresh Pond Hotel purchased ten or a dozen pairs of Wood Ducks and confined them in a large, slatted enclosure at the rear of his stable. Although but imperfectly sheltered from the weather, they all lived through the following winter. Early the next spring most of them escaped into the neighboring swamps, where several were killed by the gunners not long afterward. It is probable that the survivors bred in or near these swamps that season, for young birds were more numerous about Fresh Pond during the following summer than I have ever known them to be before or since.

My notes supply no local records of the occurrence of the Wood Duck in summer between 1875 and 1887, but during 1888, 1889, 1890, 1891, and, I believe, for several seasons later, the birds were constantly observed in May and June about several of their former haunts. In April, 1891, Mr. Frank Bolles found two pairs near the Waverley Oaks, and on the 22d of the month he saw a female fly from one of these trees which contained a cavity apparently well suited for a nesting place, but too difficult of access to be closely examined. I

have also good reasons for suspecting that during this same season, and perhaps also in 1890, another pair nested in the grove of large oaks and hickories in front of the old mansion house at Payson Park, where both birds were observed feeding in a small, artificial pond.

From 1887 to 1896 or 1897 Wood Ducks were frequently met with in early summer in the Fresh Pond Swamps, and in 1890 a man living on the shores of Pout Pond assured me that a brood of young had appeared near his house during each of the preceding three years. His son, a bright and truthful-seeming lad whom I afterwards questioned on the subject, confirmed this statement, adding that in the spring of 1889 he had found a nest, containing ten eggs, in a hollow stump on the edge of the pond — where, by an odd coincidence, a pair of the birds alighted while we were talking about them. Their regular occurrence at this time in a locality bordered by houses and other buildings, crossed by several lines of steam railway, and situated less than two miles from Harvard Square, is sufficiently surprising, but they have occasionally ventured even nearer the heart of our city, for just after a snowstorm in early March, 1891, Mr. Frank Bolles saw one fly low over his house to the grounds of the Episcopal Theological School on Brattle Street, where it alighted in the branches of a large tree.

Since 1898 the Wood Duck has apparently ceased breeding in the Fresh Pond region, to which, moreover, it is fast becoming an uncommon visitor even at its seasons of migration. It has been seen oftenest, of late years, at Great Meadow, where in 1899, 1900 and 1901, as I am informed by Mr. William P. Hadley, a pair nested in a large, hollow oak that stood on the northern edge of the shallow, brush-grown reservoir. The old tree blew down and the reservoir was drained of its water in 1902; since then the birds have not reappeared in that neighborhood.

28. *Aythya americana* (Eyt.).

REDHEAD.

Rather rare transient visitor in autumn.

SEASONAL OCCURRENCE.

October 7, 1899, a pair seen, Waltham, H. B. Bigelow.

December 21, 1903, one male seen, Fresh Pond, H. Bowditch.

Not long after sunrise on the morning of October 24, 1868, a flock of eight

Redheads alighted in Cambridge Nook, Fresh Pond. I sculled my boat to within thirty yards of them, but both barrels of my gun missed fire and the birds flew to the other side of the pond, where Mr. Ruthven Deane got a shot at them, wounding two which dove so adroitly and persistently that neither could be secured. Two of the members of this flock were old males whose rich chestnut heads and necks, grayish backs and black rumps showed conspicuously in the sunlight as they floated buoyantly on the smooth water.

On October 21, 1902, Mr. Richard S. Eustis observed a flock of five Redheads in Fresh Pond, getting sufficiently near them to make out that two were males and three in the plumage of the female. It is probable that the males remained in the pond during the following month, for I found two birds of that sex on the mornings of November 14 and 30, as well as on that of December 1, swimming in company with Black Ducks in the deep water off Hemlock Point. On one of these occasions they approached the shore closely and I had an excellent view of them. One was a fully mature and remarkably handsome bird; the other had the chestnut red of the head and neck of a yellowish cast, and the black of the breast tinged with brown.

In 1903 a solitary male Redhead was seen in Fresh Pond by Mr. Walter Deane on December 6, and on the 11th, 17th, and 21st of the month either the same or a similar bird was observed there by Mr. Harold Bowditch.

Mr. Walter Faxon writes me that "an intelligent gunner" of his acquaintance claims to have shot a Redhead in Smith's Pond in the autumn of 1888; Mr. John H. Hardy, Jr., that the species has also been taken at Spy Pond; Mr. Henry Bryant Bigelow that he "saw a pair, male and female, on a small pond on the estate of Miss Walker in Waltham, on October 7, 1899." The birds last mentioned have been already recorded by Messrs. Howe and Allen.¹ According to Miss Walker they appeared in the pond several days before the date of Mr. Bigelow's observation and remained there about a week.

29. *Aythya vallisneria* (Wils.).

CANVAS-BACK.

Of very rare occurrence during migration.

The Canvas-back is known to breed only in the northwestern portions of

¹R. H. Howe, Jr., and G. M. Allen, *Birds of Massachusetts*, 1901, 53.

North America, and the line of migration followed by the birds which winter in the Middle and South Atlantic States is believed to extend directly from the Great Lakes to Chesapeake Bay and more southern waters. Hence it is not surprising that the species is, and apparently always has been, but little more than a chance straggler to New England. Of its occurrence in the Cambridge Region I can give but three records. The first of these was originally mentioned, many years ago, in the 'Proceedings of the Boston Society of Natural History,' in the following words: "Dr. S. Cabot, Jr., stated that he had recently received a pair of canvass-back ducks, shot near Newburyport. He had known only one previous instance of these birds being taken in this vicinity, to wit, at Fresh Pond, by Capt. N. J. Wyeth."¹

The second record relates to a solitary bird which visited Fresh Pond in the autumn of 1903, remaining there nearly two weeks. It was first noted by Mr. Harold Bowditch and Mr. Richard S. Eustis on November 18. Mr. Walter Deane and I had an excellent view of it on the afternoon of November 30, the latest date on which it is known to have been seen by any one. We found it swimming and diving within a few yards of shore, in a sheltered cove, in company with two Ring-necked Ducks and six Coots (*Fulica*). Through our field-glasses, at a distance of less than one hundred yards, we could distinctly make out the characteristic shape and proportions of the head and bill of the Canvas-back as well as the general coloring of its plumage which was that of a female. The bird for a time was unaware of our presence (we were concealed behind a bank) and quite at its ease, but upon discovering us it swam directly out into the pond, with the Coots and Ring-necks following in its wake. On reaching a safe distance from land it buried its head in the feathers of the back and, for the next half hour or more, remained apparently sound asleep, its body slowly revolving, as well as drifting, under the influence of a light breeze. The Ring-necks, behaving in a similar manner, kept it close company, but the Coots returned to the shallow water near shore soon after we had left the neighborhood of the cove.

The third record comes to my knowledge just in time to be inserted in the present connection. It concerns a Canvas-back which was noted in Fresh Pond by the Rev. H. G. Wright on December 23, 1905, and which was afterwards seen there almost daily up to January 8, 1906, (the date of the present writing). Mr. Walter Deane had a good view of the bird on December 31, 1905. He tells me that it was a male in fully adult plumage.

¹ [S. Cabot,] Proceedings of the Boston Society of Natural History, II, 1846, 89.

30. *Aythya affinis* (Eyt.).

LESSER SCAUP DUCK. LESSER SCAUP. BLUE-BILL.

A transient visitor to our larger ponds, not uncommon in autumn.

SEASONAL OCCURRENCE.

- April 8, 1882, one ad. male¹ taken, Charles River, East Watertown, C. R. Lamb.
 May 5, 1892, one male and one female seen, Lower Mystic Pond, W. Faxon.
 October 18, 1869, four seen, three taken, Fresh Pond, W. Brewster.
 December 6, 1900, six seen, Fresh Pond, W. Deane.

In the earlier years of my shooting experience small flocks of Lesser Scaups frequently alighted in Fresh Pond in autumn. They were usually rather tame and, like the Ruddy Ducks and Scoters, loath to leave the pond, even when repeatedly fired at. I do not remember to have ever met with them in spring, but I have a male in full plumage which Mr. Charles R. Lamb shot on April 8, 1882, in Charles River, near the Watertown Arsenal, and Mr. Walter Faxon tells me that he saw a pair on May 5, 1892, and three birds together on May 1, 1893, in the Lower Mystic Pond.

On November 22, 1900, and again on the 26th of that month, I found a male Scaup, which I identified as *affinis*, swimming, in company with some Ruddy Ducks, in Fresh Pond where, later the same autumn (on December 6), Mr. Walter Deane observed a flock of six birds which he feels sure belonged to this species. I also learn from Mr. J. H. Hardy, Jr., that a flock of seven Lesser Scaups were seen in Spy Pond during "a rainy day in the last week of October, 1899," and that he shot one of them.

The instances last mentioned are all that my notes supply of the recent occurrence of this species in the Cambridge Region. About four miles to the southward, however, in Jamaica Pond — which, by the way, is surrounded by a much more thickly settled and bustling neighborhood than that bordering on any of our Cambridge ponds — the Lesser Scaup has appeared regularly and in considerable numbers during the past few years. Mr. Harold Bowditch tells me that he first noticed it there in December, 1900, when he saw about thirty birds on the 15th of the month and nearly as many on the following day. On December 1, 1901, he observed upward of fifty in the pond at one time. He

¹ No. 8207, collection of William Brewster.

has also sent me a letter written on June 4, 1902, by our mutual friend, Mr. William H. Slocum, who says: "The Scaup Ducks' regular visits to Jamaica Pond started a few years ago with a small number one autumn, which stayed, I think, till driven out by the ice. Each autumn since, the number has been larger and the birds have fed nearer to the shore. Not being disturbed, they have become tamer, or the larger number has made the search for food keener. The spring visits have been more irregular, shorter in time and less in numbers. Last spring very few were seen."

I am not aware that the Greater Scaup Duck has ever been found in the Cambridge Region although I have seen it at Concord in spring as well as autumn.

31. *Aythya collaris* (Donov.).

RING-NECKED DUCK. RING-NECK.

Very rare transient visitor in autumn.

Shortly after sunrise on the morning of November 26, 1867, I noticed a solitary Duck in Smith's Pond, diving for food near the eastern shore. By advancing quickly when it was under water, and flattening myself on the open, marshy ground just before it came to the surface, I approached within easy gun-range and killed the bird, which proved to be a young male Ring-neck. The specimen is still preserved in my collection.

On the afternoon of November 30, 1903, Mr. Walter Deane and I found two Ducks, which I am positive were Ring-necks, in Fresh Pond. Accompanied by a female Canvas-back and six Coots (*Fulica*), they were feeding close to shore in a shallow cove where we had a good view of them in a strong light at a distance not exceeding one hundred yards. They were diving continually and with remarkable vigor and agility, springing quite clear of the water just before they disappeared beneath its surface. Both were plain brown birds and apparently females. As they rose in the water to flap their wings, the bluish gray speculum, which distinguishes the Ring-neck from all our other Ducks except the Redhead, showed distinctly. The female Redhead not only possesses this marking but is, in certain other respects, colored very nearly like a female Ring-neck. The two species differ materially in size, however, and these particular birds, as I fortunately was able to satisfy myself by comparing them with the Canvas-back and with the Coots, were not larger than Lesser Scaups, and hence much too small for Redheads.

The above records are all that I am able to give for the Cambridge Region, to which, indeed, the Ring-necked Duck appears to be nearly if not quite as infrequent a visitor as is the Canvas-back.

32. *Clangula clangula americana* (Bonap.).

AMERICAN GOLDEN-EYE. WHISTLER.

Rather common transient visitor to our larger ponds, and abundant winter resident on Charles River Basin.

SEASONAL OCCURRENCE.

October 27, 1868, small flock seen, Fresh Pond, W. Brewster.

November 15 — April 1.

April 29, 1898, one seen (Concord), R. A. Gilbert.

July 26, 1889, one seen diving, Back Bay Basin, W. Brewster.

Whistlers have always been common in late autumn and winter in the Back Bay Basin. They were formerly much disturbed by sportsmen and especially by the draw-tender of West Boston Bridge who kept a grass-trimmed gunning-float in constant readiness for the pursuit of these and other water-fowl. In consequence of this persecution the visits of the Whistlers became less and less frequent as the years went by. About 1874, however, a horse was badly frightened by a shot fired near the Milldam by some careless gunner, and soon afterwards a law was passed prohibiting all shooting on the Basin.

During the next ten or fifteen years the numbers of the Whistlers which resorted to the Back Bay Basin remained about the same, but with each successive season the birds came oftener and stayed longer. It was exceptional to note more than fifteen or twenty at any one time prior to 1889, but on December 31 of that year I counted nearly one hundred. After this their numbers steadily increased, until in January, 1897, from five or six hundred to a thousand birds might be frequently seen scattered over the sheet of water lying between Harvard and West Boston Bridges. During the years 1897, 1898 and 1899 a considerable portion of the muddy flats which constituted the favorite feeding grounds of the Whistlers was removed by dredging, and since then the birds have not reappeared in anything like the numbers that were present in 1897. They often spend the entire day in the Basin, but invariably leave it a little before sunset, flying off in the direction of Boston Harbor and returning early the next morning. They evidently find an abundance of food, for they are

constantly diving, often within gun-shot of, and sometimes almost beneath, the bridges. I do not know just how late into the spring they continue to frequent these waters, but I seldom see them there after the 8th or 10th of April. On July 26, 1889, however, I noticed a single bird diving near the West Boston Bridge. It was probably a crippled or a barren individual which had failed to go north at the usual time and was passing the summer in the neighborhood.

Whistlers also resort to the tidal reaches of Charles River between Old Cambridge and Watertown, as well as to Fresh, Spy and the Mystic Ponds. At Fresh Pond they used to occur only occasionally, during the autumn migration, but since 1890 their visits have increased in frequency, and at the present time they may be often seen in small numbers in November and December; even in midwinter, when the pond is covered with ice, they sometimes alight in the open water about a fountain through which the pipe from Stony Brook Reservoir enters Fresh Pond.

33. *Charitonetta albeola* (Linn.).

BUFFLE-HEAD. BUTTER-BALL.

Transient visitor in autumn (and winter?).

SEASONAL OCCURRENCE.

October 20, 1868, one im. male taken, Fresh Pond, W. Brewster.

October 30 — November 15. (Winter?)

November 27, 1867, one seen, Spy Pond, W. Brewster.

The pretty little Buffle-head used to occur quite regularly, if somewhat sparingly, in autumn, appearing late in October or early in November with the first hard frosts and, like the Dumb-birds, usually alighting well out from shore in our larger ponds. Even in the earlier years of my shooting experience it was far from numerous. Indeed I have never known more than eight or ten birds to be killed during a single season in Fresh Pond which has always been one of their favorite resorts in this neighborhood. I have seen them in Spy Pond, and on November 2, 1891, I found a single bird swimming and diving in a small ice-pond lying at the foot of Prospect Hill, Waltham. According to Mr. John H. Hardy, Jr., the Butter-ball has been taken in the Mystic Ponds, and Mr. W. A. Jeffries tells me that he picked up a wounded bird in the Back Bay Basin about thirty-five years ago and that he has seen others there in late autumn, but never in winter. In December, 1903, however, a female or young

male spent a week or more in this sheet of water. I had a good view of it on the 23d of the month, when it was feeding in company with some Whistlers within one hundred yards of the sea-wall on the Boston side of the river.

I cannot learn that the Buffle-head has ever been noted in spring in the Cambridge Region, and of late its autumnal visits appear to have been becoming less and less frequent. Indeed my only local records (besides the one last given) which relate to the past nine years are as follows.

- November 24, 1897. An adult male seen by O. A. Lothrop.
- November 9, 1898. An adult male seen by O. A. Lothrop.
- November 12, 1898. An adult male seen by Walter Deane.
- November 21, 1898. A single bird seen by O. A. Lothrop.
- October 30, 1899. A fine adult male seen by O. A. Lothrop.

The bird noted on November 9, 1898, was in the Glacialis. All the other records relate to Fresh Pond.

34. *Harelda hyemalis* (Linn.).

OLD-SQUAW.

Transient visitor in late autumn.

SEASONAL OCCURRENCE.

- October 24, 1871, seven males seen, Fresh Pond, W. Brewster.
- November 17, 1870, one female¹ found dead, Fresh Pond, W. Brewster.

If I remember rightly, a few Old-squaws were killed every autumn in Fresh Pond during the years (1868-1872) when I was accustomed to shoot there regularly. My notes, however, furnish but few definite records for this pond; they are as follows:—

On November 5, 1870, a pair of Old-squaws, accompanied by eight Ruddy Ducks, alighted in the pond about sunrise. After the flock had been fired into and scattered by another gunner, the Old-squaws came my way and dropped into the water not far from my boat. I sculled up to within thirty yards of them and killed them both. The female is still in my collection. I have another specimen (also a female) which I found early on the morning of November 17 of the same year, floating dead in Fresh Pond. Evidently it had died from the

¹ No. 4068, collection of William Brewster.

effects of a gun-shot wound, probably inflicted the day before. On the morning of October 24, 1871, I had a good view of a flock of seven Old-squaws, all apparently adult males, which flew about low over the pond, but did not alight there. On November 8, 1875, a female Old-squaw, now in my possession, was shot in Fresh Pond by Mr. M. Abbott Frazar.

Mr. George B. Frazar tells me that Old-squaws still occasionally visit the Mystic Ponds, and he has shown me a fine old male that was killed on November 10, 1894, in Brooks's Pond, an artificial sheet of water less than four acres in extent, in West Medford, not far from the Lower Mystic Pond.

In Spy Pond, as I am assured by Mr. Warren E. Freeman, the Old-squaw has been seen rather frequently within the past fifteen years, sometimes in flocks containing as many as fifteen or twenty birds each. Mr. Freeman has an adult male, shot in this pond about eight years ago, which, he writes me, was "one of a flock of over twenty-five birds."

[*Camptolaimus labradorius* (Gmel.). LABRADOR DUCK. Thomas Morton, writing "*Of Birds, and feathered fowles*" noted by him in New England between 1622 and 1630, says: "Ducks, there are of three kindes, pide Ducks, gray Ducks, and black Ducks in greate abundance."¹ It has been conjectured that his 'pide' Duck was the Pied or Labrador Duck of more recent authors. Although this is by no means clear, it is not unlikely that he really met with the Labrador Duck, perhaps in Quincy Bay, during his residence at Merrymount. If we may reason from analogy there are other and still better grounds for believing that this interesting species once visited all the larger bays connected with Boston Harbor, as well as the lower reaches of Charles River. The evidence on this head is purely circumstantial, however, and briefly as follows: (1) The Labrador Duck was found regularly, if only very sparingly, along the coast of Massachusetts, up to 1850 or a little later, and specimens are known to have been taken at localities no further distant from Boston than Swampscott and Ipswich. (2) Although for the most part a maritime bird, it was by no means confined to salt water. On the contrary it sometimes wandered far inland, and in the neighborhood of the coast was more or less regularly addicted, at least in the Middle States, to *following up the courses of broad tidal streams*. Of the latter fact we are assured by Audubon, who states that this bird "at times" ascended the Delaware River "at least as far as Philadelphia," and in such numbers that he found in the possession of "a bird-stuffer" at Camden "many fine specimens," all of which, we are led to understand, were taken in the river near that place "by baiting fish-hooks with the common mussel."²

If the Pied Duck was given to frequenting the tidal rivers and estuaries of Massachusetts before they were much disturbed by white men, — as seems probable, — it could scarcely have failed, in those early times, to visit the shoal salt waters of the Back Bay to fish for mussels. It may even have alighted — at least occasionally — in some of our larger ponds, to lave its striking black and white plumage in their fresh waters, as the equally sea-loving Scoters and Old-squaws continue to do. It is believed to have become extinct before the

¹ Thomas Morton, *New English Canaan*, 1637, 67, 68. Ed. C. F. Adams, Jr., 1883, 189, 190.

² J. J. Audubon, *Birds of America*, VI, 1843, 329.

close of the past century, for the last living bird of which we have definite knowledge was killed near Long Island, New York, in the autumn of 1875.¹

35. *Somateria spectabilis* (Linn.).

KING EIDER.

Casual visitor in early winter.

On the afternoon of December 4, 1893, Mr. George B. Frazar saw three large Ducks flying over Lower Mystic Pond. They alighted near the middle and soon swam inshore, diving at frequent intervals. By making short, quick runs when they were under water and concealing himself before they reappeared, Mr. Frazar approached within gun-shot of the birds and disabled two of them, which he had to shoot at many more times before finally securing them, for they were exceedingly tenacious of life. They proved to be King Eiders. The third bird, without doubt, was of the same species. It flew out over the pond and re-lighted, but was not afterwards seen. The ground, at the time, was covered with snow; the weather was clear and very cold with a violent north-west wind.

One of the specimens just referred to is now in my collection. It shows a good deal of black on the scapulars and sides, and in these respects resembles the young male of the King Eider, but it is small for a bird of that sex and Mr. Frazar, who dissected and mounted it, was probably right in marking it a female. The other specimen, mounted by Mr. Morton E. Cummings, in whose possession I have lately seen it, is a plain brown bird and unquestionably a young female.

The only other instance known to me of the occurrence of the King Eider at any inland locality in Massachusetts is that, reported² by Mr. Bent, relating to a young bird taken at Nippenicket Pond in Bridgewater on October 21, 1899. I suspect that the species visits our seacoast oftener than is generally supposed, although perhaps not regularly, and certainly by no means numerously. My collection contains seven Massachusetts specimens, of which two young birds (a male and female) were shot on January 6, 1875, off Revere (formerly Chelsea) Beach and hence not far from the eastern borders of the Cambridge Region.

¹ W. Dutcher, *Auk*, VIII, 1891, 204, 210, 213; XI, 1894, 9.

² A. C. Bent, *Auk*, XIX, 1902, 196.

36. *Oidemia americana* Swains.

AMERICAN SCOTER. BUTTER-BILL COOT. BUTTER-BILL.

Transient visitor in autumn, of infrequent and apparently rare occurrence.

Mr. W. A. Jeffries tells me that the American Scoter occasionally alights in the Back Bay Basin in autumn and it has been taken at that season in Spy Pond and in the Mystic Ponds, according to Mr. John H. Hardy, Jr. Among our older local gunners of thirty years or more ago there existed, as I well remember, a tradition to the effect that in still earlier times large flocks of 'Coots' had been occasionally seen in Fresh Pond, usually during heavy north-easterly storms, and it was said that on one memorable occasion upwards of fifty Butter-bills had been slain there in a single day. There can be little question that these stories, although probably somewhat exaggerated, were based on fact. I can give but one definite instance, however, of the occurrence of the American Scoter at Fresh Pond, — that of a fine old male which I saw and vainly attempted to shoot on October 3, 1868. It was killed by another sportsman on the following morning, but the specimen, unfortunately, was not preserved.

37. *Oidemia deglandi* Bonap.

WHITE-WINGED SCOTER. WHITE-WINGED COOT.

Transient visitor in autumn, formerly not uncommon.

SEASONAL OCCURRENCE.

October 1, 1868, three seen, one taken, Fresh Pond, W. Brewster.

November 26, 1900, six seen, Fresh Pond, W. Brewster.

I can remember a time (1867 to 1872) when White-winged Scoters used to alight in Fresh Pond nearly every autumn — usually during October, quite as often in clear as in stormy weather, and almost invariably at daybreak. As a rule they appeared singly or two or three together, sometimes in company with Ruddy Ducks. Nearly all were young birds and so tame that they fell easy

victims to the gunners. Nuttall, writing in 1834, says¹ that "when they have been seen in Fresh Pond, which they sometimes visit, at least the young, their heads have been observed nodding, as though they were oppressed by sleep; and we sometimes here have a saying of being as sleepy as a Coot."

Mr. O. A. Lothrop has given me a finely mounted adult male of this species, which was obtained at Fresh Pond in the autumn of 1899. It appeared there on October 29 and was seen daily up to November 4 when it was picked up dead near shore by the Park policeman. A still more recent instance of occurrence at this pond is that of a flock of six birds which I saw on November 26, 1900. They circled low over the water several times and then flew off towards the eastward.

Mr. John H. Hardy, Jr., writes me that the White-winged Scoter occasionally visits Spy and the Mystic Ponds. I have an impression that I saw an adult male, many years ago, swimming in the Back Bay Basin near West Boston Bridge, but my notes contain nothing to confirm this recollection.

38. *Oidemia perspicillata* (Linn.).

SURF SCOTER. GRAY COOT.

Transient visitor in autumn.

SEASONAL OCCURRENCE.

October 13, 1868, one im. taken, Fresh Pond, C. E. Chenery.

October 23, 1893, five seen, four taken, Lower Mystic Pond, *vide* G. B. Frazar.

Mr. George B. Frazar tells me that on October 23, 1893, a flock of five Surf Scoters alighted in the Lower Mystic Pond. He shot one of them, and three of the remaining four were killed by another gunner. I have met with this species only twice at Fresh Pond — on October 13, 1868, and October 17, 1870. On each of these occasions a solitary young bird came in at daybreak and was quickly shot.

Mr. Alfred S. Swan of Arlington writes that "in times past a few Gray Coot used to drop into Spy Pond during hard 'northeasters'" and that he killed "nine out of a bunch of forty, one morning." The females and young of the present species are invariably called 'Gray Coot' by our local gunners, but

¹T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Water Birds, 1834, 421.

as this term is sometimes applied to the young of the American Scoter, also, the identity of the birds taken by Mr. Swan is perhaps open to doubt.

39. *Erismatura jamaicensis* (Gmel.).

RUDDY DUCK. DUMB-BIRD.

A transient visitor, formerly abundant in autumn.

SEASONAL OCCURRENCE.

June 22, 1890, one ad. male¹ taken, Charles River, Mr. Rivet.

September 30, 1868, thirty seen, Fresh Pond, W. Brewster.

October 10—November 8.

December 14, 1900, six seen, Fresh Pond, W. Deane.

Twenty-five or thirty years ago the 'Dumb-bird,' as it was universally called by our local gunners, was by far the most abundant of the water-fowl which visited Fresh, Spy and the Mystic Ponds in autumn. It also alighted rather frequently in Smith's Pond, occasionally in Hardy's Pond, and sometimes in Charles River between Cambridge and Watertown, while on one occasion I found a single bird swimming in a small pond-hole surrounded by bushes in the Brick-yard Swamp. The migration began about the close of September or early in October, and continued late into November, although the bulk of the birds passed between October 15 and November 8. They came into the ponds in the greatest numbers when the weather was clear and frosty, usually at daybreak or shortly afterwards, sometimes singly or in pairs, oftener in bunches of from six or eight to a dozen or fifteen individuals each. At Fresh Pond I have had three or four such flocks in sight at once and have known upwards of fifty birds to be killed in a single morning. The last really heavy flight took place in 1882, when the Ruddy Ducks were almost as numerous as they had been during any of the preceding ten or twelve years.

Only a very few birds are known to have visited Fresh Pond between 1890 and 1899, but in 1900 a good-sized flock appeared on November 17 and remained several weeks, haunting Cambridge Nook, where they were constantly diving and seemed to obtain an abundance of food. Up to December 6 there were from fifteen to seventeen of them, the number varying within these limits from day to day. On December 9 and 10 only five were present. On the 14th

¹ No. 45,097, collection of William Brewster.

there were six. The next morning Cambridge Nook was frozen over and the Ruddy Ducks had disappeared, not to return again that season. They reappeared the following autumn, as I am informed by Mr. Richard S. Eustis, on October 22, when eight birds were seen. After this date they were almost constantly present in numbers varying from one or two to fifteen or twenty, while on October 31 twenty-two were counted by Mr. Eustis. It is to be hoped that they, like the Black Ducks, have at length discovered that Fresh Pond, once so perilous a halting-place for all their tribe, has become a safe haven of refuge, and that they will continue to visit it in ever increasing numbers, for they are among the most interesting of our water-fowl.

Mr. Warren E. Freeman writes me under date of January 11, 1903, that at Spy Pond no less than thirty-two Dumb-birds were killed, and ten or fifteen others seen, on October 19, 1901, and that his note-books show that since he began shooting there in 1895 from twenty to thirty-five have fallen to his own gun every autumn. He does not think, however, that the total number taken in any one season during this period has ever exceeded fifty birds. These statements indicate that, despite the incessant persecution to which they are still subjected at Spy Pond, the Ruddy Ducks have occurred more numerous there, of late, than at Fresh Pond. At the Mystic Ponds, however, according to Mr. George B. Frazar, very few have been seen during the past ten or twelve years.

On June 22, 1890, a male Ruddy Duck in full breeding plumage was killed in Charles River not far from the Watertown Arsenal, and directly opposite Faneuil Station, by a Mr. Rivet, who took the bird, next day, to Mr. M. Abbott Frazar by whom it was mounted. This specimen is now in my collection. Mr. Frazar tells me that it was alone when shot, but that another Duck, apparently of the same species, was reported to have been seen with it shortly before its capture.

[*Chen hyperborea* (Pall.). LESSER SNOW GOOSE. *Chen hyperborea nivalis* (Forst.). GREATER SNOW GOOSE. All three of the early writers so often quoted in this paper speak of white Geese in terms which indicate that these birds were of rather common and regular occurrence in eastern Massachusetts when the country was first settled; at that time they doubtless visited the Cambridge Region, although of this we have no definite proof. Morton says: "There are Geese 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."¹ Josselyn enumerates "the *Gray Goofe*, the *White Goofe*, and the *Brant*," adding, "I once found in a *White Goofe* three Hearts."² Wood states that the "white Goofe" is "almoft as big as an

¹ Thomas Morton, *New English Canaan*, 1637, 67. Ed. C. F. Adams, Jr., 1883, 189-190.

² John Josselyn, *New-Englands Rarities Discovered*, 1672, 9. E. Tuckerman's ed., 1865, 42, 43.

English tame Goose," adding, "these come in great flocks about Michelmas, sometimes there will be two or three thousand in a flock, those continue six weeks, and so fly to the Southward, returning in March, and staying six weeks more, returning againe to the Northward; the price of one of these is eight pence."¹ That the white birds just referred to were Snow Geese is beyond question, but whether or not they represented both forms of that species is less certain. Both continue to appear in New England, but the larger bird (*Chen hyperborea nivalis*) has been taken only a few times within the past fifty years, and the smaller (*Chen hyperborea*), although decidedly the commoner of the two, is no longer a frequent or regular visitor.]

40. *Branta canadensis* (Linn.).

CANADA GOOSE.

Transient visitor in spring and autumn, formerly abundant and still not uncommon.

SEASONAL OCCURRENCE.

March 8, 1894, large flock, Cambridge, R. Walcott.

March 15 — April 15.

April 29, 1889, one seen, Rock Meadow, W. Faxon.

October 7, 1891, flock of fifty seen, Cambridge, H. W. Henshaw.

November 1—30.

December 26, 1898, flock of twenty-five seen over Fresh Pond, O. A. Lothrop.

Canada Geese may still be seen or heard nearly every spring and autumn, passing high in air over the Cambridge Region on their northward and southward migrations. Although observed much less often than formerly, they continue to appear in considerable numbers, attracting general attention by their imposing flight and wild, musical clamor — which stirs the blood of old sportsmen more, perhaps, than does any other sound in all nature. Between April 1 and 8, 1893, ten flocks passed within sight of our place in Cambridge, and five of them (all noted on the 8th) contained respectively fifty, sixty, seventy-five, one hundred, and one hundred and twenty-five Geese — as nearly as the birds could be counted. This, of course, was an exceptionally heavy migration for so recent a time, although it would not have been considered very remarkable forty or fifty years ago.

Since my earliest recollection no large flocks of Geese have been known to visit our ponds, but small flocks and single birds used to alight rather frequently, and still do so occasionally, in Fresh, Spy and the Mystic Ponds. Mr. Walter Faxon tells me that he found a solitary Goose in Rock Meadow on April

¹ William Wood, *New Englands Prospect*, ed. 2, 1635, 26. Charles Deane's ed., 1865, 34.

29, 1889, and another was noted by Dr. Charles W. Townsend in the Brighton Marshes opposite the Cambridge Hospital on April 20, 1890. Mr. W. A. Jeffries reports seeing two birds in the Back Bay Basin a few years ago, and five alighted together in Spy Pond as recently as December, 1901, according to Mr. John H. Hardy, Jr.

Dr. Townsend asserts on the authority of Dr. Phillips "that it is only in or after stormy weather that Wild Geese fly in to Wenham Lake and alight."¹ I have seen the birds swimming in Fresh Pond, and in Concord River, much oftener when the weather was clear or, at least, fair than during or just after storms. I remember, however, a tradition current among our local gunners of forty years ago, to the effect that not long before that period a large flock of Geese had alighted, during a snowstorm, on Strawberry Hill near the southern shores of Fresh Pond. These birds, it was said, had become so exhausted and so loaded with damp snow that numbers of them were killed with clubs.

A record of the breeding of this species within our limits is given in the 'Ornithologist and Oölogist,'² in the following words: "A set of two eggs of the Canada Goose was taken about the last of April at Lexington, Mass. The geese were noticed flying every morning at break of day, regularly, to a certain locality, which attracted attention. Upon investigation the goose was discovered on a nest, which was a hollow, at the foot of a large pine, about four feet from the water, and about five rods from an ice-house, on the land of Henry Simonds. The finder placed the eggs under a hen, but they failed to hatch. The geese disappeared after the nest was disturbed." I have been unable to verify these statements, and since they are not accompanied either by the name of their author, or by that of the alleged finder of the nest, they cannot be accepted with much confidence.

A striking and probably not exaggerated account of the numbers in which Canada Geese occurred near Boston in early Colonial days is given by Morton who says: "I have had often 1000. before the mouth of my gunne," adding, "the fethers of the Geefe that I have killed in a fhort time, have paid for all the powther and fhott, I have spent in a yeare, and I have fed my doggs with as fatt Geefe there, as I have euer fed upon my felfe in England."³ All this happened, no doubt, between 1625 and 1630, at Merrymount, now Wollaston, only a few miles south of the Cambridge Region.

Wood — evidently referring to his experience in the neighborhood of

¹C. W. Townsend, *Memoirs of the Nuttall Ornithological Club*, no. III. *Birds of Essex County, Massachusetts*, 1905, 149.

²[Editor,] *Ornithologist and Oölogist*, XIV, 1889, 14.

³Thomas Morton, *New English Canaan*, 1637, 67, 68. Ed. C. F. Adams, Jr., 1883, 190.

'Saugus' (now Lynn), where he lived during most of the period (1629-1633) that he spent in Massachusetts — gives similar testimony, for in a passage relating to the "great gray Goofe, with a blacke necke, and a blacke and white head" he asserts that "moft of these Geefe remaine with us from Michelmas to Aprill; they feede on the fea upon graffe in the Bayes at low water and gravell, and in the woods of Acornes, If I fhould tell you how some have killed a hundred Geefe in a weeke, fiftie Duckes at a fhot, fortie Teales at another, it may be counted impoffible, though nothing more certaine."¹

41. *Olor columbianus* (Ord).

WHISTLING SWAN.

Accidental visitor in autumn.

I have a male Whistling Swan, in fully adult plumage, which was killed in Weston, Massachusetts, on December 17, 1890, by Michael McCarthy of Auburndale, who gave me the following account² of the circumstances attending the capture: He was walking along the west bank of Charles River near Norumbega Tower at about half-past six o'clock in the morning, looking for ducks, when he saw seven large white birds within a yard or two of the shore in a bay where the water was perhaps two feet deep. They were apparently feeding on the bottom, thrusting their heads and long necks under the water every few seconds. He succeeded in getting within about seventy-five yards of them and fired, killing one, when the others rose at once and flew out of sight, following the course of the river towards Waltham, two, which probably were wounded, lagging behind the rest. All looked pure white, like the one captured. The latter weighed seventeen pounds. The morning was cloudy with an east wind which brought rain about noon. There was a little ice in the middle of the river, but the water along the shores was perfectly open.

Charles River at the place where these Swans were seen is a broad, sluggish stream, expanding in a succession of bays and bordered on both banks by nearly unbroken stretches of woods.

Lest objection be made to giving the Whistling Swan a numbered place in

¹ William Wood, *New Englands Prospect*, ed. 2, 1635, 26. Charles Deane's ed., 1865, 34.

² W. Brewster, *Auk*, VIII, 1891, 232.

our list on the strength of a specimen taken in Weston, it may be well to state that Norumbega Tower stands only one hundred yards or less from the boundary of Waltham and that, as the six birds which escaped "flew out of sight, following the course of the river towards Waltham," there can be no question that they were actually seen to enter that town and hence the Cambridge Region.

There is a Whistling Swan in the collection of the Boston Society of Natural History that is said¹ to have been taken at Nahant by a Mr. Taylor about 1865, and I have a young bird in grayish plumage, which the late Mr. W. Wendte found hanging in a provision store at Newburyport, and sent to me on December 2, 1902, with a letter from which I take the following extracts: "On 11th m. 27 [November 27, 1902,] six of these birds were seen in the water near Woodbridge Island, Newburyport Harbor. The fact was reported to Geo. F. Thurlow, who sculled over to the spot the next day and there killed one of them. which is now in thy collection." About a month later he wrote me that he had ascertained that "the bird was first crippled in the water off Woodbridge Island," but that it afterwards "flew over into Plum Island Creek within the limits of Newbury, and there was captured." It is probable that some of the survivors of this flock lingered in the neighborhood of the locality where they were first seen for several days, for on December 4, 1902, the 'Gloucester Daily Times' published an account of a "Whistling Swan . . . shot one day this week in Ipswich Bay" by Mr. William H. Vivian of Gloucester, Massachusetts. On writing to Mr. Vivian I learned that the bird was alone and that he killed it "on Dec. 1 at about 9 A. M.," as it was flying past his boat which lay, at the time, "about two hundred yards off the beach, at the westerly side of Essex Road." The specimen was mounted and is still, I believe, in Mr. Vivian's possession.

Swans, no doubt representing the present species, and perhaps also *O. buccinator*, are mentioned by most of the early writers on New England. Morton says: "There are of them in Merrimack River, and in other parts of the country, greate store at the seasons of the year;"² Wood: "There be likewise many Swannes which frequent the fresh ponds and rivers, seldom comforting themselves with Duckes and Geefe."³ These statements show conclusively that the birds must have occurred regularly and numerous in eastern Massachusetts before the country became thickly settled.

¹ W. Brewster, Bulletin of the Nuttall Ornithological Club, IV, 1879, 125.

² Thomas Morton, New English Canaan, 1637, 67. Ed. C. F. Adams, Jr., 1883, 189.

³ William Wood, New Englands Prospect, ed. 2, 1635, 26. Charles Deane's ed., 1865, 33.

42. *Plegadis autumnalis* (Hasselq.).

GLOSSY IBIS.

Casual visitor, known to have occurred on but one occasion — in May, 1850.

According to the late Mr. F. C. Browne, to whom we are indebted for the best account¹ which has ever appeared of the little flight of Glossy Ibises that invaded eastern Massachusetts in 1850, the well-known specimen taken in Cambridge during that year, and now in the New England collection of the Boston Society of Natural History, was shot on May 8, "at Fresh Pond in this town by classmate E. Brown [Edward Wyeth Brown], from a flock of three."² One of the two survivors was thought by Mr. F. C. Browne to have been the Ibis which was captured at Concord, Massachusetts, about the same time and which also has found its final resting-place in the collection of the Boston Society. The third bird has never been satisfactorily accounted for.

The locality above given for the Cambridge specimen is, of course, sufficiently definite for general purposes, but it may be of interest in the present connection to state that Mr. E. W. Brown told Mr. Walter Faxon, a few years since, that the bird was killed in a meadow just north of the turnpike road (Concord Avenue) near what is now the extreme southwestern end of the Glacialis.

On the evening of July 14, 1878, while driving in Belmont, I saw a flock of about twenty large birds flying southward at a moderate elevation. Moving very swiftly with quick, continuous wing beats, they crossed the road at some distance ahead of me in a broad extended front — or rather in a line drawn at right angles with their course. Had it not been for the fact that they appeared to be wholly dark-colored, I should have taken them for White Ibises, which they closely resembled in shape and in manner of flight. They certainly were not Ducks, Herons, Curlews, nor any of the other birds of similar size which occur regularly in eastern Massachusetts. I have always believed that they were Glossy Ibises, but I have no disposition to insist on the probability of such a conjecture, for it undeniably rests on evidence which is far from satisfactory. Indeed, I should not consider the incident worth mentioning, were it not for the recorded fact that during May of that same year several Glossy Ibises were shot on Cape Cod.

¹ F. C. Browne, *Auk*, IV, 1887, 97-100.

² *Ibid.*, 97.

43. *Botaurus lentiginosus* (Montag.).

AMERICAN BITTERN.

Common transient visitor in spring and autumn ; also breeding in a few localities.

SEASONAL OCCURRENCE.

March 31, 1894, one seen, Cambridge Region, W. Faxon.

April 15 — October 20.

November 26, 1874, one taken, Belmont, W. Brewster.

NESTING DATES.

May 5 — 20.

Nuttall, writing of the Bittern in 1834,¹ says: "In the breeding season, and throughout a great part of the summer, we often hear the loud booming note of this bird from the marshes of Fresh Pond." Mr. J. Elliot Cabot also mentions² the booming of the Bittern in terms which indicate that it must have been one of the characteristic spring sounds of this locality in his college days. It was never heard in Cambridge, so far as I am aware, between 1865 and 1894, although during this period the birds occurred commonly enough at their seasons of migration. Since 1895, however, the Bittern has been a regular summer resident of the Fresh Pond Marshes, and its nest and eggs have been repeatedly found in the beds of cattail flags immediately to the north and west of the Glacialis. For several years after its reappearance only a single pair was noted each summer, but in 1902, as I am informed by Mr. Richard S. Eustis, two if not three males were repeatedly heard pumping at the same time. It is difficult to account for the absence of the birds from this ancestral breeding ground during the years above mentioned, but their return to it in 1895 was probably due largely, if not wholly, to the increase and dispersion of the cattail flags which had taken place only a short time before. There is no evidence, however, that these flags were more numerous at the time referred to by Nuttall than they were during the earlier years of my own experience, when they occurred only in scattered patches along the banks of Little River and about a few of the pools in the Brickyard Swamp.

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. *The Water Birds*, 1834, 61.

² J. E. Cabot, *Sedge-birds*, *Atlantic Monthly*, XXIII, 1869, 385.

In May, 1868, I heard a Bittern pumping in Rock Meadow, and ever since that time I have never failed to find a pair established there in late spring and early summer whenever I have visited the place at these seasons. One or two pairs have also bred in Great Meadow within recent years.

44. *Ardetta exilis* (Gmel.).

LEAST BITTERN.

Summer resident, of local distribution.

SEASONAL OCCURRENCE.

May 12, 1876, one ad. male¹ taken, Belmont, W. Brewster.

May 15 — August 1.

August 11, 1868, one taken, Fresh Pond Marshes, W. Brewster.

NESTING DATES.

June 1 — 5.

In Nuttall's time (*i.e.*, prior to 1834) Least Bitterns were "occasionally started in the interior of the great marshes of Fresh Pond," where this author thought that they probably bred "in the sedgy tussocks; though we have occasionally seen one or two in the society of the Kwa Birds, in the dark woody swamp of their breeding place."² The late Mr. J. Elliot Cabot also mentions the species among his Fresh Pond 'Sedge-birds.' It has been a regular summer resident of the Fresh Pond Swamps ever since I began to be interested in them. In the earlier days its favorite haunts were the Brickyard Swamp, where I could always find one or two pairs of old birds in May and June and a few young in July and August, but where I looked in vain for the nests. They must have been concealed among the low bushes which surrounded the shallow pools where I used to start the birds, for there were only a few thin and scattered clusters of cattail flags. When the Brickyard Swamp was drained, the Least Bitterns removed to the broad, open meadows lying west of Alewife Brook, where they have since bred regularly and in numbers increasing with the increase and dispersion of the cattail flags, among which their nests

¹ No. 326, collection of William Brewster.

² T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Water Birds, 1834, 66-67.

have been frequently found within the past five or six years. A few pairs also pass the summer in a swamp at East Lexington, and I have seen one or two birds in May about Rock Meadow. All the Least Bitterns which breed in the Cambridge Region apparently depart for the south before the close of August.

45. *Ardea herodias* Linn.

GREAT BLUE HERON.

Uncommon transient visitor in spring and autumn, occasionally seen in winter.

SEASONAL OCCURRENCE.

March 17, 1894, one seen, Cambridge Region, W. Faxon.

April 1 — May 1.

May 5, 1900, one seen, East Lexington, W. Brewster.

July 30, 1891, two seen, East Lexington, W. Faxon.

September 1 — October 20. (Winter.)

December 20, 1886, one im. male¹ taken, Mystic Ponds, a gunner.

The Great Blue Heron continues to visit us at its seasons of migration. In spring it is seen less often and for shorter periods than in autumn when it sometimes arrives as early as the last week of July and lingers through November or even into December. It has never been very common since I can remember, and I am inclined to believe that it occurs quite as regularly and almost as numerously now as it did thirty or forty years ago, at least in places where it still finds congenial feeding grounds. Its favorite resorts at the present time are Rock Meadow, Great Meadow, the shores of the Mystic Ponds, and the marshes north of the Glacialis. It used to be seen rather frequently in the salt marshes bordering Charles River and about the shallow, reedy coves of Fresh Pond, but these localities have become so changed of late as to nearly or quite cease to attract it. So far as I am aware, there are no reasons for believing that it has ever bred in the Cambridge Region, at least within the past fifty or one hundred years.

I have a young male Great Blue Heron which was killed in Arlington on December 20, 1886. The gunner who shot the bird told me that it had been haunting the Mystic Ponds for two or three weeks previous to this date, spending the day well out on the ice and fishing at morning and evening about some

¹No. 13,545, collection of William Brewster.

air-holes close to shore. Another specimen was taken at Lexington on December 8, 1890.¹ There are several published records of the occurrence of the species during this month in the immediate neighborhood of Boston. Mr. Frederic H. Kennard writes me that he saw a bird in Brookline on February 5, 1901.

46. *Florida cærulea* (Linn.).

LITTLE BLUE HERON.

Casual visitor from the south.

I am indebted to my friend, Mr. H. W. Henshaw, for the following interesting manuscript account of the capture, in the Cambridgeport Marshes, many years ago, of a Little Blue Heron in the white plumage: "It must have been in the early sixties, '61 or '62, when I saw for the first and only time, a little white Heron (*Florida cærulea*) on the Cambridge marsh not far from Whittemore's Point. It was in the early fall, September I think, after a stormy period of several days, and the marsh was being traversed in every direction by six or eight gunners, all after Peeps. How the unfortunate Heron had eluded the scrutiny of so many eyes I know not, but when I espied it the bird was standing motionless in the open marsh, though in a crouching attitude as if thoroughly frightened, by a small rush-bordered creek. It was very tame and allowed me to approach within easy range. My shot wounded it sorely, and no doubt it would have soon fallen, but in its labored flight it chanced to pass near a gunner who brought it down, and I lost the prize. I remember that everyone on the marsh gathered around the lucky sportsman to view and handle the strange bird, none of them ever having seen such a bird before. Afterwards the bird was stuffed by a local taxidermist and so passed into oblivion." This is the only instance known to me of the capture of the species in the region covered by the present Memoir.

In his 'Rarer Birds of Massachusetts' Dr. Allen, writing of the Little Blue Heron, says: "Mr. Maynard informs me he has recently seen it on one or two occasions in autumn."² Mr. Maynard himself, in the 'Naturalist's Guide,'³ characterizes it as a "rare summer visitor," adding "I have met with it

¹[Editor,] *Ornithologist and Oölogist*, XV, 1890, 188.

²J. A. Allen, *American Naturalist*, III, 1870, 637.

³C. J. Maynard, *Naturalist's Guide*, 1870, 143.

but twice in this section." In response to my inquiry as to just where his birds were found, Mr. Maynard writes me as follows: "The Little Blue Herons that I saw were in what is known as Purgatory Swamp which lies partly in Newton and partly in Waltham. I started them on the Newton side of the swamp and they crossed into Waltham." Hence it appears that this now somewhat ancient record relates directly to our Cambridge Region.

A Little Blue Heron in immature plumage was shot at Cohasset, about 1852, by a Mr. Morse;¹ another bird, also in the white plumage, and now in the collection of the Boston Society of Natural History, was taken at Ipswich on August 10, 1881;² and I have a female in full nuptial plumage, which was killed at Roslindale in April, 1896, by Mr. W. R. Zappey. There are still other Massachusetts records relating, however, to localities too far from the Cambridge Region to be worth mentioning in this connection.

47. *Butorides virescens* (Linn.).

GREEN HERON.

Common summer resident, more numerously represented of late than formerly.

SEASONAL OCCURRENCE.

April 26, 1879, one seen, Belmont, W. Brewster.

May 1 — September 30.

October 16, 1868, one seen, Fresh Pond Swamps, W. Brewster.

NESTING DATES.

May 10 — 25.

The Green Heron usually arrives late in April and departs for the south before the first of October. It is rather generally distributed in summer throughout most of the Cambridge Region, nesting in dense birch or maple woods, usually near ponds or marshes, or along the courses of brooks, but occasionally on high ground at considerable distances from any water. Like the Crow and the Black Duck, it is at once a wary and a venturesome bird, endowed with sufficient intelligence to discriminate between real and imaginary dangers and often making itself quite at home in noisy, thickly settled neighborhoods

¹ T. M. Brewer, Proceedings of the Boston Society of Natural History, XIX, 1878, 259.

² R. H. Howe, Jr., and G. M. Allen, Birds of Massachusetts, 1901, 45.

where food is abundant and where it is not too much molested. In the Fresh Pond region it has been very much more numerously represented within the past decade than it was thirty or forty years ago, despite the disappearance of most of the woods and thickets which it formerly frequented and the rapid multiplication of houses and human population. In the earlier days we seldom met with more than two or three breeding pairs in any one summer, but in May, 1896, Mr. O. A. Lothrop found no less than ten nests containing eggs or young within a space of about an acre in the Maple Swamp. There were almost if not quite as many there the following spring, but most of the eggs were taken by boys, and the birds have since nearly ceased to frequent the place. It is exceptional for them to form a colony of this kind for, unlike most Herons, they are not habitually gregarious at any season. Their local increase, which began about 1885 and reached its maximum ten or twelve years later, was due, no doubt, to one or another of the changes in the physical and vegetal condition of the swamps, that occurred during this period; such changes, for example, as the partial submergence, at every season, of the region lying to the north and west of the Glacialis, or the excessive multiplication and wide dispersion of the cattail flags over this semi-flooded area.

In midsummer, after their young had become strong of wing, our Cambridge Green Herons were once accustomed to feed in the early morning and late afternoon — as well as at all hours of the day when the weather was lowering — in the salt or brackish marshes along Charles River. We used to see them constantly in the month of August, passing and repassing low over Brattle Street at various points between Sparks Street and Mount Auburn. They all returned to their roosts in the Fresh Pond Swamps at evening, when the last stragglers sometimes met the first flights of Night Herons moving in the opposite direction. Within the past two or three years both species have nearly ceased to visit the Charles River Marshes.

As nearly as I can ascertain, they feed at the present time chiefly in the Fresh Pond Marshes, at Great Meadow, and about the shores of our larger ponds. It is probable that some of them resort to the salt marshes near Revere Beach and perhaps also to the fresh-water meadows along the Concord River opposite Bedford, for these localities lie within easy flight (for Herons) of the Cambridge Region, and both, I believe, are still frequented by the birds in summer.

48. *Nycticorax nycticorax nævius* (Bodd.).

BLACK-CROWNED NIGHT HERON. NIGHT HERON. QUAW BIRD.

Formerly an abundant summer resident; from 1875 to 1895 a permanent resident, but not common in winter; at the present time found only sparingly, chiefly in late summer and early autumn.

SEASONAL OCCURRENCE.

April 10—November 1. (Formerly permanent resident.)

Sixty years or more ago Night Herons nested very numerous in the immediate neighborhood of Cambridge. Their breeding place, according to Nuttall,¹ was "in a very secluded and marshy island, in Fresh Pond," where, although "the birds have been frequently robbed of their eggs, in great numbers, by mischievous boys, they still lay again immediately after, and usually succeed in raising a sufficient brood." It is difficult to understand this assertion unless we assume that the word 'swamps' was accidentally omitted after 'Fresh Pond,' for the pond itself is not known to have ever contained an island, 'marshy' or otherwise. Dr. Brewer once told me that, when he visited the Cambridge heronry in 1834 and 1835, it was in a tract of swampy woods near Alewife Brook and not far from where the Cambridge Almshouse now stands, but on the opposite (*i. e.* southwestern) side of the main road (now Massachusetts Avenue) leading from Cambridge to Arlington. Owing to its proximity to this road the birds, even then, were much persecuted and their numbers, although considerable, had been greatly reduced. In the 'Water Birds of North America'² Dr. Brewer states that this heronry once "occupied many acres;" that, "previous to the draining" of the surrounding region, it "was almost inaccessible;" and that the Herons' "nests were in the highest trees, and never less than twenty feet from the ground."

I questioned Dr. Samuel Cabot closely, respecting these matters, when I last saw him, shortly before his death, in 1885. His testimony, in the main, agreed with that of Dr. Brewer. He said that when he was at Harvard College (1832-1836) the heronry was situated in some extensive swampy woods that

¹T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Water Birds, 1834, 55-56.

²Baird, Brewer, and Ridgway, Water Birds of North America, I, 1884, 59.

bordered the north bank of Little River just above its junction with Alewife Brook; that it was then inhabited by several hundred Night Herons; and that these birds nested in the taller trees, most of which were large white pines. The original growth must have been removed not long afterwards, for the entire tract was densely wooded with oaks and maples fifteen or twenty feet in height when I first became acquainted with it in 1865 or 1866. These second-growth trees were cut down in the winter of 1901-1902. The area which they once covered may still be traced by the stumps and brushwood which remain. It lies a little beyond the western borders of Cambridge, in Arlington, and the Lexington Branch of the Boston and Maine Railroad passes through it just after crossing Alewife Brook.

The following interesting reference to this heronry occurs under date of May 10, 1850, in some manuscript records of the earlier meetings of the Harvard Natural History Society, now preserved in the library of the Museum of Comparative Zoölogy: "With regard to the locality near Fresh Pond, of which Nuttall speaks, some conversation arose. The President remarked that the Blue¹ and Green Herons, which Nuttall found in the same vicinity, were now entirely gone. He had lately visited the heronry. There were this year eight or nine pairs only of the Night Heron. Only one nest was ready for the season [*sic*], at the time of his visit. The number of the birds was gradually decreasing, and before many years the spot would be quite deserted."

So far as I am able to learn no nests of the Night Heron have been found in the Cambridge Region since 1860, although we used to look for them persistently and at first hopefully, but always vainly, not only in spring but also in winter when it was easy to traverse the frozen swamps and when even the smallest nests were conspicuous in the leafless trees and thickets. The birds were numerous enough up to about 1885 and by no means uncommon for some twelve or fifteen years after that, occurring continuously from the middle of April to well into October. Most of those seen in early spring were in full nuptial dress and no doubt, were migrants bound still further north. Those which remained through May, June and July, were apparently not in breeding condition, for their plumage, as a rule, was ragged and faded (usually of a plain grayish brown) and the sexual organs of such as I shot and dissected invariably proved to be undeveloped. In August there was a marked and sometimes very considerable influx of brown, white-spotted young, probably from breeding stations further inland or to the northward.

¹One might infer from this passage that Nuttall found either the Little Blue Heron (*Florida carulea*) or the Great Blue Heron (*Ardea herodias*) breeding near Fresh Pond. No mention of such an experience, however, occurs in his 'Manual.'

At every season during the earlier years of my experience most of the Night Herons which frequented the Cambridge Region, roosted by day in the Fresh Pond Swamps and fed by night in the salt marshes and creeks along Charles River, crossing and recrossing the intervening upland singly or in small flocks, in the evening and morning twilight. The morning flight passed almost unnoticed, — save by ornithologists and sportsmen, — but in the warm, midsummer evenings, when nearly every one was out of doors, the big birds, sweeping like ghostly shadows just above the tops of the trees, uttering their loud, hoarse calls at frequent intervals, attracted very general attention. Most of them passed over Brattle Street at or very near Elmwood, but they also appeared regularly over our own place, and in August, — when they were especially numerous, — we sometimes saw or heard as many as fifteen or twenty there in the course of a single evening.

The Night Heron is not known to have occurred in midwinter near Cambridge prior to 1875. In December of that year eight or ten birds appeared in the white pine grove at Elmwood where they remained through January and February, 1876. Mr. Lowell reported their presence in the 'Boston Daily Advertiser' for February 12, 1876, and on the evening of the 17th of that month I saw them leave the grove and fly towards the neighboring salt marshes. For upwards of twenty years later a varying but usually somewhat smaller number continued to frequent the Elmwood pines in winter, and a few others were occasionally met with at that season in the cedar and pitch pine woods to the westward of Mount Auburn,¹ as well as in the Hemlock Grove at Fresh Pond. A small wintering colony was also discovered in Longwood, Brookline, during the latter part of this period.

Since the woods about Pout Pond and near Little River were cut down, the Cambridge Night Herons have become widely scattered and greatly reduced in numbers. I have seen none of late in the Fresh Pond Swamps, and within the past two or three years they have nearly or quite ceased to visit the marshes along Charles River. I am told that they continue to occur sparingly about the shores of the Mystic Ponds as well as at Great Meadow, but I fear that the time is not far distant when they will no longer be found regularly in any part of the Cambridge Region.

¹ I have two specimens taken in this locality by Mr. H. M. Spelman, one, no. 10,187, on January 25, 1879, the other, no. 10,186, on February 1 of the same year.

49. *Nyctanassa violacea* (Linn.).

YELLOW-CROWNED NIGHT HERON.

Accidental visitor.

A Yellow-crowned Night Heron was shot on July 30, 1878, in a rather densely populated part of Somerville¹ within a few hundred yards of the line which separates that city from Cambridge and not far from Norton's Woods. The facts attending its capture were as follows: On the afternoon of the day just mentioned Mr. George Cunningham was attracted by a commotion among the Robins and other small birds in the orchard immediately behind his house. On going to the spot he disturbed a large bird which flew from an apple tree and disappeared over an adjoining fence. Shortly afterwards there was another alarm in the orchard and it was found that the intruder had returned. A neighbor who was fond of shooting was summoned, the bird was winged and, after a sharp chase, captured. It showed fight, and "chattered," as Mr. Cunningham expressed it, "very like a monkey." The specimen was mounted by Mr. Charles I. Goodale, a well-known Boston taxidermist of that period. I afterwards obtained it from Mr. Cunningham and it is still in my collection.² It is a young bird in the spotted autumn plumage, many of the feathers of which retain the hair-like filaments that characterize the downy stage of young Herons, and are pushed outward on the tips of the feathers which succeed the down. Nevertheless it was old enough to have flown a considerable distance, perhaps even from some breeding ground in the South Atlantic States.

Mr. John A. Farley tells me that in 1893 a pair of Yellow-crowned Night Herons were seen during the early part of the breeding season (he thinks in June) about the old Malden reservoir ("then a small pond") near the dividing line between Malden and Medford. One of them was shot and is now in the possession of Mr. O. D. Flood, formerly of Malden, now of Leominster. This bird, no doubt, is the specimen briefly referred to by Messrs. Howe and Allen in their Massachusetts list as killed in Malden about 1893.³ The locality where it was taken lies outside the Cambridge Region, but only a few miles from its eastern borders.

¹ W. Brewster, Bulletin of the Nuttall Ornithological Club, IV, 1879, 124-125.

² No. 401, collection of William Brewster.

³ R. H. Howe, Jr., and G. M. Allen, Birds of Massachusetts, 1901, 46.

There are several other records of the occurrence of the Yellow-crowned Night Heron in eastern Massachusetts, the earliest of which relates to a bird obtained at Lynn by Mr. N. Vickary in October, 1862.¹

[*Grus americana* (Linn.). WHOOPING CRANE. *Grus canadensis* (Linn.). LITTLE BROWN CRANE. *Grus mexicana* (Müll.). SANDHILL CRANE. Morton, in the 'New English Canaan,' says: "Cranes, there are greate store, that ever more came there at S. Davids day [March 1], and not before: that day they never would misse. Thefe sometimes eate our corne, and doe pay for their presumption well enough; and ferveth there in powther, with turnips to supply the place of powdered beefe, and is a goodly bird in a difhe, and no discommodity."² There can be little doubt that this account relates chiefly if not wholly to Merrymount (now Wollaston), only a few miles south of the Cambridge Region, where Morton lived from 1625 to 1628 and again in 1629 and 1630. Wood, referring probably to observations made at 'Saugus' (now Lynn) between 1629 and 1633, gives equally interesting testimony, as follows: "The Crane although he be almost as tall as a man by reason of his long legges and necke; yet is his body rounder than other fowles, not much unlike the body of a Turkie. I have seene many of these fowles, yet did I never see one that was fat, though uery fleekie, I suppoze it is contrary to their nature to grow fat; Of these there be many in Summer, but none in Winter; their price is two fhillings."³ Cranes are also mentioned by Josselyn in his 'Two Voyages.'⁴ Our Great Blue Heron is often called 'Crane' by country folk, but it does not eat corn nor is it "a goodly bird in a difhe." For these reasons it could not well have been the species referred to by the writers above quoted. Wood's assertion to the effect that Cranes were especially numerous "in Summer" would seem to imply that they bred in eastern Massachusetts in his day, but this, although possible, is not probable.

Turning to more recent authors we find that Samuel Williams says⁵ that the Sandhill Crane, "*Ardea canadensis*," was among the commonest of the "*Water Fowl*" found in Vermont in 1794, and Belknap, in 1792, included⁶ it among the birds of New Hampshire, while, even as late as 1842, Thompson asserted⁷ that the Whooping Crane continued to be "occasionally seen during its migrations" in Vermont. Emmons gives both species as rare, in his list of the birds of Massachusetts,⁸ published in 1835, but, as he marks the Whooping Crane as breeding in this State, his testimony is, perhaps, not entitled to much weight.

From the evidence above cited we may conclude that in early Colonial times true Cranes of some kind were perfectly regular and rather common migratory visitors to the region immediately about Boston, as well as to certain other parts of New England. That they had ceased to be anything more than rare or accidental visitors before the middle of the past century, is still more certain. Whether the birds which were formerly found in eastern Massachusetts were Sandhill or Whooping Cranes is not clear. It is probable, however, that both species occurred and that the Sandhill Crane was the more numerous of the two. Neither bird, I believe, has

¹ J. A. Allen, *American Naturalist*, III, 1870, 637.

² Thomas Morton, *New English Canaan*, 1637, 69. Ed. C. F. Adams, Jr., 1883, 192.

³ William Wood, *New Englands Prospect*, ed. 2, 1635, 26. Charles Deane's ed., 1865, 33.

⁴ John Josselyn, *Two Voyages to New-England*, ed. 2, 1675, 100. W. Veazie's reprint, 1865, 79.

⁵ S. Williams, *Natural and Civil History of Vermont*, 1794, 119.

⁶ J. Belknap, *History of New Hampshire*, III, 1792, 169.

⁷ Z. Thompson, *History of Vermont, Natural, Civil, and Statistical*, 1842, pt. i, 103.

⁸ E. Emmons, E. Hitchcock, *Report on the Geology, Mineralogy, Botany, and Zoölogy of Massachusetts*, 1835, 532.

been reported from anywhere in New England within very recent times, but a specimen of the Little Brown Crane was shot at Natick Hill, Rhode Island, on October 9, 1889,¹ and it is said² to have been accompanied by another, apparently of the same kind. This capture suggests the possibility that the species last named may have been represented among the Cranes on which the roistering Morton feasted during his residence at Merrymount.]

50. *Rallus elegans* Aud.

KING RAIL.

Casual visitor; only one definite record.

On several occasions within the past few years Mr. Walter Faxon and I have heard in May or June, in the Fresh Pond Marshes, and also at Great Meadow, a deep, guttural *umph, umph, umph, umph*, something like the grunting call of the Virginia Rail but louder and also suggestive of the quacking of a hoarse-voiced Duck. We have reasons for believing that these notes are produced by the King Rail but the evidence on this head is not as yet conclusive. Up to the time when the introduction to the present Memoir was finished and printed I was not aware that the species in question had ever certainly been found in the Cambridge Region, and for this reason it was omitted from my preliminary list of 'Occasional or Accidental Visitors.' Since then, however, Mr. John A. Farley has discovered in the collection of Mr. A. C. Hill of Belmont, and has kindly brought to me for examination, a Cambridge specimen of the King Rail.³ It is apparently a young bird in the first winter plumage. Mr. Hill tells me that he received it alive on the evening of December 30, 1896, from a boy who said that he had caught it in his hands, that afternoon, on the ice at Pout Pond. Although it seemed to be in good health and spirits, running about very actively when liberated in Mr. Hill's poultry-house, it died during the following night. On skinning and dissecting it, Mr. Hill found it to be a male and exceptionally thin in flesh, even for a representative of its proverbially attenuated tribe. No doubt it had become not only emaciated, but also much weakened, by starvation, for otherwise it would hardly have been captured so easily.

Although generally believed to be but a chance visitor to eastern Massachusetts, the King Rail has been found there rather frequently, especially within

¹ J. M. Southwick, *Ornithologist and Oölogist*, XIV, 1889, 159. W. Brewster, *Auk*, VII, 1890, 89.

² R. H. Howe, Jr., and E. Sturtevant, *Birds of Rhode Island*, 1899, 45.

³ J. A. Farley, *Auk*, XXII, 1905, 409.

recent years. There are published accounts of its capture at Nahant, on November 21, 1875;¹ in the Sudbury Meadows, "some years" before 1878;² at North Truro, "early in February," 1892;³ at Salem, on July 10, 1894;⁴ at Ipswich, in October, 1901;⁵ at Ellisville, Plymouth County, on January 20, 1903.⁶

To these records I can add the following, none of which, I believe, have been hitherto reported:—

On September 9, 1893, an adult female King Rail was shot in the marshes bordering the Neponset River, just above Readville, Massachusetts, by Mr. J. H. Bowles who, on August 27 of the following year, killed a second specimen in these marshes, flushing it, by a curious coincidence, within a few yards of the spot where his first bird was secured. Both specimens were mounted by Mr. Bowles. I believe that he still has the one taken in 1893; the other he gave me several years ago. I also have the head and legs of a King Rail which Mr. Charles R. Lamb has contributed to my collection and which bear the original label, inscribed as follows: "Collection of Foster H. Brackett, Boston, Mass. No. 677, Chatham, Mass., Sept. 24, 1884. ♂." Mr. Lamb thinks that the bird to which these fragments once belonged was shot by Mr. Brackett himself, but as the latter gentleman is no longer living this impression cannot now be verified.

It will be observed that two of the above records relate to birds taken in midwinter. We also have knowledge of a specimen that was killed at Falmouth, Maine, on December 17, 1899.⁷ Thus the occurrence of the King Rail in Cambridge at so late a date as December 30 is not, after all, very remarkable. Nor would it be surprising to find that the species breeds occasionally in eastern Massachusetts. Such a possibility is suggested by some of the evidence just given and also by the condition of the bird taken by Mr. Bowles on August 27. This specimen, although fully grown, is evidently a very young bird, for it still retains a number of feathers which are characteristic of the first or juvenal plumage of the King Rail.

¹ H. A. Purdie, Bulletin of the Nuttall Ornithological Club, II, 1877, 22.

² *Ibid.*, III, 1878, 146.

³ G. S. Miller, Jr., Auk, IX, 1892, 396.

⁴ C. W. Townsend, Memoirs of the Nuttall Ornithological Club, no. III. Birds of Essex County, Massachusetts, 1905, 159.

⁵ *Ibid.*

⁶ A. L. Reagh, Auk, XX, 1903, 304.

⁷ H. H. Brock, Auk, XIX, 1902, 285.

51. *Rallus virginianus* Linn.

VIRGINIA RAIL.

Summer resident, abundant in a few localities.

SEASONAL OCCURRENCE.

April 14, 1899, one heard, Fresh Pond Swamps, A. H. Hathaway.

April 20—September 25.

November 9, 1898, one seen, Pout Pond, A. H. Hathaway.

NESTING DATES.

May 15—25.

The Virginia Rail breeds abundantly in the Fresh Pond Swamps, very commonly at Great Meadow and Rock Meadow, sparingly or sporadically in a few other places. In the locality first named its numbers have increased considerably since the cattail flags became so widely dispersed over the broad marshes lying to the westward of Alewife Brook. It is now found most frequently and numerously among these flags, but in earlier days its favorite summer haunts were the Brickyard and Maple Swamps, where it usually nested in thickets of alders or patches of briers. It prefers brush-grown to open, grassy meadows, although rank beds of cattail flags suit it best of all. Like all its near relatives it is a retiring, elusive bird, much oftener heard than seen. In spring and early summer the male utters a guttural *cut, cut, cutta, cutta, cutta*, which may be heard at a distance of half a mile or more when the air is still. Equally characteristic of the breeding season, but apparently common to both sexes, is another cry which consists of a rapid succession of low yet penetrating grunting sounds not unlike those produced by a hungry pig. In late summer and early autumn the calls given by both old and young birds are closely similar to those used at these seasons by Carolina Rails.

Most of our Virginia Rails depart for the south before the end of August, but a few linger through September, and stragglers are occasionally seen in October. It is probable that these late birds come from more northern breeding grounds, although there is no marked migration here, either in spring or autumn.

52. *Porzana carolina* (Linn.).

SORA. CAROLINA RAIL.

Summer resident, locally abundant.

SEASONAL OCCURRENCE.

April 14, 1890, one heard, Fresh Pond Swamps, W. Faxon.

April 15—October 31.

December 3, 1898, one ad. male¹ taken, Pout Pond, A. H. Hathaway.

NESTING DATES.

May 20—31.

Of the Carolina Rail Nuttall,² writing in 1834, says: "In the vicinity of Cambridge, (Mass.) a few, as a rarity only, are now and then seen in the course of the autumn, in the *Zizania* patches which border the outlet of Fresh Pond; but none are either known or suspected to breed in any part of this state, where they are, as far as I can learn, every where uncommon."

It is difficult to discredit this testimony, for Nuttall was a close observer, and especially keen and accurate in discriminating bird notes. Even had he overlooked the Sora in autumn, he could scarcely have done so in spring and early summer when its loud and persistent calls are among the most prominent and characteristic sounds of the places which it inhabits. The chances are, therefore, that he was correct in thinking that the species did not then breed, nor perhaps occur numerously at any season, in the immediate neighborhood of Cambridge.

However the case may have stood prior to 1834, the Sora was certainly common enough in and about Cambridge some thirty years later, both in the breeding season and in autumn. Indeed between 1864 and 1870 I found not only the birds, but their nests and eggs as well, in the Fresh Pond Swamps; in a narrow strip of meadow bordering a ditch at the western base of the hill on which the old Cambridge reservoir formerly stood; on a grassy, floating island in the little pond just behind Mount Auburn; and at Rock Meadow. Several of these localities, it will be observed, were favorite haunts of Nuttall.

¹ In the collection of O. A. Lothrop.

² T. Nuttall, Manual of the Ornithology of the United States and of Canada. *The Water Birds*, 1834, 213.

At the present time the Sora breeds in the Fresh Pond Swamps; along Beaver Brook just below the Waverley Oaks; at Rock Meadow; at Great Meadow; and near the Lower Mystic Pond. Like the Virginia Rail, it has increased materially in numbers within the past twenty years, especially in the Fresh Pond Swamps. Here in spring and early summer the two birds occur in close association, and in about equal abundance, among the cattail flags, where they often nest within a few yards of each other. Elsewhere their respective summer haunts are not always quite the same, for the Sora seldom if ever breeds in the briery thickets which are so much affected by the Virginia Rail, while the latter is often nearly or quite absent from the more open, grassy meadows where the Sora especially loves to dwell.

In autumn both species frequent similar places, but the Sora is much the commoner of the two, especially when the more northern-bred migrants are passing southward. At such times the report of a gun or the splash of a stone thrown into the shallow water among the beds of reeds in which the birds are concealed is sure to be instantly followed by a chorus of *keks*, *kiks*, *ki-kiks* and other similarly abrupt, explosive cries, uttered in tones suggestive of indignant protest and coming from far and near on every hand. Most of these calls are made by young Carolina Rails. The love song of the male Sora, a sweet plaintive *êr-e*, given with a rising inflection and suggesting the 'scatter call' of the Quail, is seldom heard later than the first of August, and the silvery, whinnying notes, which the female utters so often in May and June, are equally characteristic of the breeding season.

53. *Porzana noveboracensis* (Gmel.).

YELLOW RAIL.

Rare transient visitor in autumn.

SEASONAL OCCURRENCE.

September 13, 1876, one found dead, Belmont, E. A. and O. Bangs.

October 14, 1878, one¹ taken, Charles River Marshes, A. L. Danielson.

There are some reasons for suspecting that the Rails which Nuttall men-

¹No. 26,678, collection of Museum of Comparative Zoölogy.

tions hearing in October, 1831, among the reeds at Fresh Pond were not, as he supposed, of this species, but Carolina Rails. No such doubt can attach, however, to the bird which he examined and which, he says, was surprised and shot "while feeding on insects or seeds, by the margin of a small pool, overgrown with the leaves of the water lily," apparently "in the vicinity of West Cambridge" (now Arlington).¹

There is a specimen of the Yellow Rail in the New England collection of the Boston Society of Natural History, labelled "male, near Boston, Mass., Dr. S. Cabot," which probably was taken in Cambridge, as the following extract from a letter written a few years since by the late Mr. Edward C. Cabot to the late Mr. Foster H. Brackett will show: "When my brother [Dr. Samuel Cabot] was in college, 1832-36, I was in the habit of shooting with him on the Fresh Pond marshes. . . . At the time I refer to, the mouth of the brook [*i. e.* the outlet of the pond] where there was a patch of wild rice, was the resort of wild ducks, water hen and rail, and I have no doubt that these birds [the Yellow Rail and a Florida Gallinule, also in the collection of the Boston Society] were found there though I have no recollection of facts in regard to these specimens."

To these early records I can add only two of more recent date, *viz.*, that of a bird in the collection of Messrs. E. A. and O. Bangs which they found dead on September 13, 1876, at the eastern (Belmont) end of Rock Meadow, and that of a specimen in the Museum of Comparative Zoölogy which Mr. Alfred L. Danielson shot on October 14, 1878, in the Charles River Marshes opposite the Watertown Arsenal.

It is strange that the Yellow Rail has not been met with of late years in the Fresh Pond Swamps, for it is not very uncommon in autumn at Wayland and the late Mr. C. I. Goodale used to take it quite regularly, in both spring and autumn, in a meadow at Wakefield, while in September, 1895, Mr. J. H. Bowles shot two birds, and started two others which he did not attempt to kill, on a small floating island in Ponkapog Pond, Canton. These localities lie, it will be observed, about equidistant from the Cambridge Region in three different directions.

[*Porzana jamaicensis* (Gmel.). BLACK RAIL. Although the Black Rail has never been taken nor even, so far as I am aware, seen, in the Cambridge Region there are good grounds for suspecting that it has not only occurred but *bred* there within recent years. The evidence on which this suspicion rests has been presented so fully by me in an article entitled 'An Ornitho-

¹T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Water Birds, 1834, 216.

logical Mystery¹ that it seems unnecessary, in the present connection, to give more than a brief recapitulation of the essential facts connected with the case, which are as follows:—

At about six o'clock on the afternoon of June 7, 1889, I heard, among the dense beds of cattail flags at Pout Pond, some bird notes which were wholly new to me. They proved equally so to Mr. Walter Faxon and Mr. Bradford Torrey whom I took to the place later that same evening. As we were unable at the time to obtain any clue to the identity of the author of these sounds, and as his song regularly began with a series of '*kick-kicks*,' we christened him the 'Kicker,' by which name he has since been known to Cambridge ornithologists.

In the course of the following fortnight two more birds of the same kind were heard in the large marsh directly north of the Glacialis, one at Rock Meadow, one about half-way between the Waverley Oaks and the Clematis Brook station of the Fitchburg Railroad, and one at the reservoir in East Lexington, while three were noted in the Neponset River meadows near Readville, one on the banks of the Sudbury River just above Concord, and *five* in a meadow near the mouth of West Brook in Sudbury. All of these birds were evidently settled for the season and no doubt breeding, for such of them as we were able to keep under close observation continued to be heard at their respective stations nearly or quite to the end of June. Although Mr. Faxon and I spared no pains to ascertain what they were, we were wholly unsuccessful, at least during that season.

So far as we know, the mysterious birds have not since returned to any of the meadows in or near Cambridge, but I noted one at Falmouth, Massachusetts, on June 25, 1890, and in the extensive marshes opposite my camp on Concord River, about two miles below the town center of Concord, one was singing in the evening of June 22, 1892, and another nearly every evening from May 18 to June 12, 1898; while I heard at least three and I think four different 'Kickers' in these meadows during the last week of June, 1901. Most of the birds just mentioned were in very wet fresh-water meadows or swamps, either among luxuriant wild grasses or in beds of tall rushes or of cattail flags. In short their haunts were similar to those of the Carolina and Virginia Rails, and their periods of greatest activity appeared to be to an even larger degree nocturnal, for we seldom heard them by day and, as a rule, they did not begin calling regularly until after sunset while they kept it up the greater part of the night.

Their voices, also, were unmistakably Rail-like. What we took to be the song, since it was uttered almost unceasingly, at short regular intervals, for hours at a time, consisted of a series of notes which may be written thus: *kic-kic-kic, ki-kèeer*. The *kic-kic* notes were very like those which the Virginia Rail sometimes produces, but the terminal *kèeer* (or *quèer*) was wholly unique and characteristic.

The Rail-like character of the habits, haunts and notes of the 'Kicker' led us to suspect, from the first, that the bird was some kind of Rail. Among the Rails known or likely to occur in summer in the fresh-water marshes of southern New England, the only species with which our local ornithologists are not familiar are the King and Black Rails. Judging from descriptions the notes of the King Rail are very different from those of the 'Kicker,' but the latter's *kic-kic-kic, ki-kèeer* is apparently not unlike the "*chi chi-cro-croo-croo*" which Mr. March suggests² as a rendering of the call of the Black Rail which inhabits Jamaica and which is believed by ornithologists to be identical with the bird that breeds in the eastern United States. These considerations, taken in connection with the fact that in the little meadow at Falmouth where I heard the 'Kicker' singing on the evening of June 25, I found, next morning, a nest closely resembling that of the Black Rail, have led me to conclude that the mysterious 'Kicker' is probably *Porzana jamaicensis*. The question cannot be regarded as settled, however, until some one is fortunate enough either to shoot or to obtain a good view of the bird while it is in the act of uttering its peculiar notes.]

¹ W. Brewster, Auk, XVIII, 1901, 321-328.

² W. T. March, Proceedings of the Academy of Natural Sciences of Philadelphia, 1864, 69.

54. *Gallinula galeata* (Licht.).

FLORIDA GALLINULE.

Summer resident, breeding sparingly in one or two localities.

SEASONAL OCCURRENCE.

April 29, 1895, one seen, East Lexington, W. Faxon.

May 15 — October 25.

November 9, 1898, one seen, Pout Pond, A. H. Hathaway.

NESTING DATE.

June 5, 1890, nest¹ and twelve eggs,¹ Pout Pond, W. Brewster.

Josselyn in the 'Two Voyages' includes² "*Duckers* or *Moorhens*" among the birds which he found in New England either in 1638 or between 1663 and 1671. As he also mentions the Coot (referring without doubt to *Fulica americana*) and as the Moorhen of England is a true Gallinule closely resembling our Florida Gallinule, there can be little or no question that the latter was the species to which he refers. It would be interesting to know whether he found it in the region near Boston, with which he was personally familiar, or at Black Point (now Scarborough), Maine, where he lived for upwards of eight years. In either case his mention of the bird is, I believe, the earliest that relates to any part of New England.

Nuttall apparently did not meet with the Florida Gallinule near Cambridge, but Peabody, in his 'Report on the Ornithology of Massachusetts,' published in 1839, states,³ on the authority of "Mr. Cabot," that a specimen "was shot in Fresh Pond several years ago." Mr. J. Elliot Cabot, also, includes⁴ the species among the 'Sedge-birds' which he and his brother found in the Fresh Pond Marshes between 1832 and 1840, and Mr. Edward C. Cabot mentions it (in the letter quoted in connection with my account of the Yellow Rail) in terms which indicate that it was not very uncommon and that its chosen haunts were the beds of reeds at the outlet of Fresh Pond.

¹ No. 2527, collection of William Brewster.

² John Josselyn, *Two Voyages to New-England*, ed. 2, 1675, 101. W. Veazie's reprint, 1865, 80.

³ W. B. O. Peabody, *Storer and Peabody, Reports on the Fishes, Reptiles and Birds of Massachusetts*, 1839, 258.

⁴ J. E. Cabot, *Atlantic Monthly*, XXIII, 1869, 384.

On June 3, 1868, in the Brickyard Swamp, I came upon a bird which, at the time, I supposed to be a Coot, but which I afterwards decided must have been a Florida Gallinule. It was swimming in a ditch bordered by bushes into which it retreated soon after discovering me. Probably it had a mate and nest hard by, for early the following autumn Mr. Ruthven Deane and I found several young Gallinules (two of which we shot) in Muskrat Pond,¹ a small, reed-encircled pool distant only a few hundred yards from the spot where the bird had been seen the previous June.

No Florida Gallinules are known to have been met with in the Fresh Pond region between the year last mentioned and 1889 when, on several occasions in early June, Mr. Walter Faxon and I heard one calling in the extensive marshes north of the Glacialis. The next year certainly two and perhaps three pairs of Gallinules passed the summer in this neighborhood, and, on June 5, we found one of their nests. Since 1891 old birds have been frequently seen or heard in the Fresh Pond Marshes in May and June, and young in September and October. There are also reasons for believing that the Florida Gallinule has bred at Great Meadow within the past ten years. It is one of the most retiring and elusive of all swamp-loving birds, and its presence may be easily overlooked by those who are not familiar with its varied and peculiar notes. Its favorite haunts are extensive beds of rank, matted cattail flags, in which it remains closely concealed during the day, but at early morning and just after sundown it often ventures out into open water where it swims about with nodding head and neck, much after the manner of a Coot.

The nest mentioned above contained twelve eggs, some of which were quite fresh, others far advanced in incubation. It was placed in a half-submerged thicket of bushes (chiefly *Spiraea salicifolia*, var. *latifolia*) in a flooded meadow near Pout Pond. With the exception of a little dry tussock grass, which formed the lining, it was composed wholly of dead, sodden cattail flags some of which were nearly two feet in length and an inch thick at the base. Although apparently floating on the surface of the water, which was twelve or fifteen inches in depth, it evidently derived its chief support from the stems of the bushes among which it was firmly wedged. Owing partly to its pale, bleached coloring, but largely, also, to the slight shelter afforded by the thin foliage of the dying bushes, the nest was so conspicuous an object that it attracted my attention at a distance of fully twenty-five feet. The birds had been seen in the meadow for two weeks or more before this nest was found, and after it was taken they continued to frequent the place, probably laying again, although, as we did not care to disturb them further, we made no search for their second nest.²

¹ Dr. J. A. Allen was mistaken in giving the locality as Fresh Pond. See *American Naturalist*, III, 1870, 639.

² W. Brewster, *Auk*, VIII, 1891, 1-7.

55. *Fulica americana* Gmel.

AMERICAN COOT. COOT. MEADOW-HEN. MUD-HEN.

Transient visitor, of rare or irregular occurrence in spring, not uncommon in autumn.

SEASONAL OCCURRENCE.

April 18, 1890, one seen, Fresh Pond Marshes, B. Torrey.

April 27, 1892, a pair seen, East Lexington, W. Faxon.

August 16, 1895, one taken by a gunner, Lower Mystic Pond, *fi de* W. Faxon.

September 15 — October 25.

December 20, 1903, one seen, Fresh Pond, H. Bowditch.

Coots occurred very commonly in the Cambridge Region twenty or thirty years ago. I have seen as many as thirty or forty in the course of a single autumn, meeting with most of them in the thicket-encircled pools of the Brickyard Swamp and the shallow, reedy coves of Fresh Pond. Muskrat Pond at the foot of Vassall Lane was another of their favorite resorts, and they were wont to appear with some regularity in the reservoir at Great Meadow, before its waters were drained. Most of these once favored haunts have long since ceased to exist or have become so changed as no longer to attract the Coots, which, however, continue to reappear, although in greatly diminished numbers, about Spy and the Mystic Ponds, the Glacialis, and certain small, nameless pools scattered throughout what remain of the Fresh Pond Swamps, especially those in the neighborhood of Pout Pond. As the birds are ordinarily very tame, they fall an easy prey to even the most inexperienced gunners, and in the earlier days many were killed every season.

During the past twelve or fifteen years only a few Coots have been seen in Fresh Pond. In the late autumn of 1903, however, its waters were enlivened, for upwards of six weeks, by the almost constant presence of one or more birds. Two were noted on November 4, four on the 9th and 11th, five on the 16th, seven on the 18th, 19th, 22d, 23d, 25th, and 27th, and six on the 30th. The pond froze over on the night of November 30, leaving, however, on the western side, a strip of open water which was frequented by a single Coot on December 6, 8, 9, 10, 11, 15, 19, and 20, and by two birds on December 16, 17, and 18. On November 30 I visited the pond in the afternoon when six Coots were feeding together close inshore, in company with a female Canvas-back and two Ring-necked Ducks. The Coots were diving in water several feet in depth, and

bringing up quantities of aquatic weeds which they seemed to be eating. When disturbed by the approach of people walking or driving along the park roadway, they would swim out into the pond, returning as soon as the coast was clear again. I do not remember to have ever before seen so many Coots together in the Cambridge Region, and it is unusual for them to occur here at all after the close of October.

Within the total period covered by my experience less than half a dozen Coots have been observed near Cambridge in spring. Mr. Walter Faxon tells me that on August 16, 1895, he examined one which a gunner had just shot in one of the Mystic Ponds. This date is so very early as to suggest that the bird, which, by the way, was adult, may have passed the summer somewhere in the neighborhood. The species is not known to breed, however, in any part of Massachusetts.

56. *Crymophilus fulcarius* (Linn.).

RED PHALAROPE.

Rare transient visitor in spring.

Although it is highly probable that the Red Phalarope occasionally visits our fresh-water ponds during its seasons of migration, I have no evidence to offer that such is really the case. Indeed the claim of the species to mention in the present Memoir rests solely, I believe, on the occurrence of a single bird which was shot in August, 1880, in Charles River about opposite where the Cambridge Gas-House once stood. This specimen was examined and identified by Mr. H. M. Spelman, who, however, cannot now recall by whom it was killed or what eventually became of it.

57. *Phalaropus lobatus* (Linn.).

NORTHERN PHALAROPE.

Of rare occurrence in spring.

On May 21, 1894, Mr. C. J. Smith, a son of the draw-tender at Craigie Bridge, brought three freshly killed Northern Phalaropes to Mr. M. Abbott

Frazar with the following story: On the morning of the day before (the 20th) he found "fully one thousand" of these Phalaropes swimming in Charles River between the Craigie and the West Boston Bridges. The weather was foggy at the time, and he thought that the birds, which were very tame, must have come in during the preceding night. They stayed until noon, when they rose to a considerable height and flew off in the direction of Boston Harbor. Mr. Frazar credits this account, but he thinks that the number of birds may have been exaggerated. I saw the specimens just referred to immediately after they had been skinned. All three were in full nuptial plumage. It is singular that neither the Red nor the Northern Phalarope has been noted in any of the fresh-water ponds of the Cambridge Region, for elsewhere in New England both species are of by no means rare occurrence in autumn about inland waters.

58. *Philohela minor* (Gmel.).

AMERICAN WOODCOCK.

Formerly an abundant summer resident, now rare in summer and but an uncommon transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

February 13, 1890, two seen, Waverley, F. B. Pullen.

March 15—November 10.

December 13, 1871, one im. male taken, Waverley, W. Brewster.

NESTING DATES.

April 15—25.

Dr. Samuel Cabot once told me that when he was at Harvard College (1832–1836) he used to get fairly good Woodcock shooting within the present limits of the city of Cambridge. A tract of springy ground grown up to alders at the base of the knoll where the Fresh Pond Hotel formerly stood was sure, he said, to harbor eight or ten birds, and he even shot a few in the College Delta. Dr. Walter Woodman mentions the Woodcock in his manuscript list of the birds which he found in Norton's Woods in summer between 1866 and 1870.

During the early years of my own experience or, to be more definite, between 1865 and 1870, I flushed Woodcock occasionally in early spring in the

Pine Swamp and very frequently in summer in the Maple and Brickyard Swamps as well as under some large willows at the foot of Vassall Lane. Most of the midsummer birds were young, some of which, no doubt, were reared in these swamps although the majority probably came from Arlington, Belmont and Waltham, where Woodcock then bred abundantly, especially in the low ground west of Arlington Heights; about the edges of Rock Meadow; and in the densely wooded and well-watered valley which lies to the southwest of Crown Hill and which was known to the local sportsmen of those days as the 'Warren Run.' Here the birds were so numerous at times that on July 7, 1869, I started between thirty and forty in the course of a few hours, and here, on April 24, 1875, I found my first Woodcock's nest with its set of four beautiful eggs.

The number of breeding birds diminished rapidly in the course of the succeeding ten years, and very few have been reported since 1890, but as lately as May 6, 1902, a nest containing four eggs was found by Mr. James E. Gardner, Jr., not far from the eastern end of Rock Meadow. It was afterwards visited by Mr. Ralph Hoffmann and Mr. William Lyman Underwood, the latter of whom took some fine photographs of the sitting bird. On May 25 she had departed with her young, leaving one unhatched egg in the nest.

Years ago when Woodcock were really numerous in summer about Cambridge they were given to resorting in August to cornfields and vegetable gardens near houses, and on one occasion (in 1868, if I remember rightly) I flushed one in our own garden. Mr. H. A. Purdie and I started another at the edge of the salt marsh behind the Cambridge Cemetery on July 11, 1894. This is the latest instance known to me of the occurrence of the species within our city limits in summer, but on April 7, 1900, a boy brought me a living bird which he said he had caught two days before among some bushes on the edge of Gray's Woods. It had evidently flown against a telegraph wire, for most of the skin of the forehead had been freshly torn away, although the skull was uninjured. During the year last mentioned Mr. E. M. Davis saw a Woodcock in Norton's Woods on April 2 and 6, and on the latter date the bird was also seen by Miss Bertha T. Parker.

At several localities in the more thinly settled parts of Belmont, Arlington, Lexington, and Waltham, migrating Woodcock continue to occur regularly, if only very sparingly, in spring and autumn. At the former season they are almost invariably found in thickets along the courses of brooks or about the borders of swamps and meadows, where the ground is soft and springy, but in autumn they often frequent rather dry covers, especially such as are composed largely of gray birches and second-growth oaks or maples.

On December 13, 1871, I shot a Woodcock in Waverley, and in 1901

another was seen on December 1, and again on the 8th of the same month, in the Wren Orchard, near Arlington Heights, by Mr. Richard S. Eustis. Strictly speaking these are winter dates, but I am inclined to believe that both of the birds to which they relate were merely belated migrants on their way still further to the southward.

59. **Gallinago delicata** (Ord).

WILSON'S SNIPE. ENGLISH SNIPE.

Transient visitor in spring and autumn, formerly abundant, still common.

SEASONAL OCCURRENCE.

March 20, 1871, one taken, Belmont, W. Brewster.

April 6— May 6.

May 18, 1890, one seen and heard, Pout Pond, W. Brewster.

September 5, 1868, three seen, Cambridge, W. Brewster.

September 12 — November 15.

November 23, 1868, several seen, Arlington, W. Brewster.

According to a statement made to me by the late Dr. Samuel Cabot, shortly before his death, Wilson's Snipe used to occur in sufficient numbers to afford really good shooting, sixty-five or seventy years ago, in the then vacant and ill-drained but now thickly settled regions, lying between Broadway and Cambridge Street near Harvard College, and, also, to the south of Dana Hill in Cambridgeport. The birds had ceased to frequent these localities before 1865, although I remember starting a stray one in 1867 or 1868 in a field at the corner of Fayette Street and Broadway, within fifty yards of the Cambridge High School. Up to 1870 or a little later Wilson's Snipe were regularly found in spring about wet hollows in the mowing fields and pastures bordering Vassall Lane, and so numerous at times that I have flushed upwards of fifty there in a single afternoon. The brook meadows extending along both sides of the Fitchburg Railroad between Hill's Crossing and Belmont were also excellent spring grounds in those days, as well as for ten or fifteen years afterwards, and the Brickyard Swamp, up to the time of its obliteration, always harbored a good many birds in both autumn and spring. But at both seasons and since time immemorial, whenever they were neither too wet nor too dry to afford good feeding grounds, the broad, unreclaimed marshes bordering Alewife Brook and

extending northward and westward to Little River and Smith's Pond, have been the favorite haunts of the Snipe in the Cambridge Region. To these marshes the birds have been pretty strictly confined during the last ten or fifteen years, although they continue to be seen more or less frequently, and at times rather plentifully, at Rock Meadow, Belmont, and Great Meadow, East Lexington.

During exceptionally wet autumns Snipe occasionally resort in large numbers to the highly cultivated truck farms of Arlington and Belmont. An interesting instance of this happened in September, 1875, when a flight, larger than any that I have known to occur in the Cambridge Region before or since, settled in some water-soaked fields covered with crops of corn, potatoes, cabbages, etc., on the Hittinger farm, Belmont. Learning of the presence of these birds, about a week after their arrival, I visited the place early the next morning, but all save ten or a dozen of them had departed, owing, no doubt, to the fact that there had been a hard frost during the preceding night. The borings and other signs which they had left convinced me, however, that the statement made to me at the time by Mr. Jacob Hittinger, to the effect that he had started *four or five hundred Snipe* there only the day before, was probably not an exaggeration of the truth.

When, on the other hand, there has been little or no rain in late summer and early autumn the Snipe, on returning from the north, sometimes find their usual haunts too dry to serve as feeding grounds. At such times I have often flushed birds from beds of rank grass or tall reeds about the shores of our larger ponds and along the course of Alewife Brook; I have also known them to frequent the salt marshes bordering Charles River, and in the Longfellow Marshes to even occur in numbers sufficient to furnish fairly good shooting.

So far as I am aware Wilson's Snipe have never been found in summer within the limits covered by the present Memoir. Upwards of thirty years ago my friend, Mr. James C. Melvin, a sportsman of long and varied field experience, met with a brood of young during the first week of July in Carlisle, Massachusetts. On nearly the same date of the following year he flushed another brood in the same meadow. On both occasions he shot one or more of the young, which were large enough to fly. I am told that Snipe have also been seen in the river meadows just below Concord early in July. Mr. N. A. Francis has reported¹ a supposed case of their breeding in Brookline, but as the young birds which he found there were still in the nest, although "half-grown," it is not probable that they were Wilson's Snipe.

¹ N. A. Francis, Bulletin of the Nuttall Ornithological Club, VIII, 1883, 243.

60. *Arquatella maritima* (Brünn.).

PURPLE SANDPIPER.

Accidental visitor in autumn.

On October 30, 1871, Mr. H. W. Henshaw shot a Purple Sandpiper¹ at the extreme end of Whittimore Point (since obliterated by the filling of the neighboring flats and marshes), Cambridgeport. This record is likely to long remain the only one for the Cambridge Region, as the species to which it relates is rarely met with out of sight or sound of the open ocean, at least in New England.

Purple Sandpipers used to occur regularly in winter — and probably do so still — on the Pig Rocks off Swampscott, Massachusetts. I found a flock of fifteen there on January 3, 1881, and killed several specimens, which are preserved in my collection. Mr. W. A. Jeffries tells me that some of the birds which frequent these small, ledgy islands are accustomed to visit the shores of the neighboring mainland during stormy weather, when he has repeatedly seen them feeding among the rocks on Marblehead Neck.

61. *Actodromas maculata* (Vieill.).

PECTORAL SANDPIPER. GRASS BIRD.

Transient visitor in autumn, formerly not uncommon.

SEASONAL OCCURRENCE.

October 5 — 20.

The Pectoral Sandpiper or Grass Bird, as it is usually called by the gunners, used to visit us very regularly and at times rather plentifully, in autumn, resorting chiefly to the salt or brackish marshes along Charles River between Whittimore Point and the Watertown Arsenal. It also occurred sparingly in the fresh-water meadows bordering Alewife Brook immediately to the northward of the

¹This specimen was preserved and is now, I believe, in the British Museum.

Glacialis; here, up to about 1875, I often met with it during the month of October, feeding singly or in small flocks, in wet or very moist places where the grass had been recently cut. Although I have no definite knowledge that it has frequented any of these localities within the past ten or fifteen years, the chances are that it has not, as yet, wholly deserted them. It is also probable that a few birds may still be found, at the right season, in Great Meadow, where the recent draining of the reservoir has left extensive muddy flats which, at present, attract numbers of Wilson's Snipe besides several species of small Sandpipers.

62. *Actodromas minutilla* (Vieill.).

LEAST SANDPIPER. PEEP.

Transient visitor in spring and autumn, formerly abundant, still very common.

SEASONAL OCCURRENCE.

May 13, 1871, thirty or more seen, Charles River, W. Brewster.

May 15—28.

June 1, 1875, one seen, several heard, Fresh Pond Swamps, W. Brewster.

July 13, 1883, about twenty seen, Charles River Marshes, C. R. Lamb.

July 20—September 1.

September 21, 1870, large flock seen, Charles River, W. Brewster.

I have occasionally seen Least Sandpipers singly or in small flocks about the shores of Fresh Pond and not infrequently in the marshes just to the northward of the Glacialis, while Mr. John H. Hardy, Jr., writes me that he has killed them in Great Meadow. Their favorite haunts in the Cambridge Region, however, are—or rather were—the salt marshes and tidal creeks of Charles River between Watertown and West Boston Bridge. Here they were wont to occur most abundantly at Whittemore Point, Cambridgeport; in the Brighton or Longfellow Marshes opposite Old Cambridge; and about a small muddy island near the Watertown Arsenal where I have known as many as two or three hundred birds to be assembled at one time. Their numbers have diminished very materially within the past twenty years, but they are, I believe, still common enough at the proper seasons wherever they continue to find suitable feeding grounds.

63. *Pelidna alpina sakhalina* (Vieill.).

RED-BACKED SANDPIPER. GRASS BIRD.

Rare transient visitor in autumn.

On October 12, 1867, I found five Red-backed Sandpipers feeding together in the Longfellow Marshes on the Brighton side of Charles River, and killed two of them. This is the only definite record that my notes supply of the occurrence of the species in the Cambridge Region. If I am not greatly mistaken in my recollection, however, a few birds used to be met with, nearly every season, by the gunners who regularly visited the Charles River Marshes in autumn twenty-five or thirty years ago.

64. *Ereunetes pusillus* (Linn.).

SEMIPALMATED SANDPIPER. PEEP.

Transient visitor, formerly abundant in late summer and early autumn.

SEASONAL OCCURRENCE.

August 4, 1875, about one hundred seen, two¹ taken, Fresh Pond, W. Brewster.

August 10—September 15.

October 5, 1874, one taken, Fresh Pond Marshes, W. Brewster.

The autumnal migration of the Semipalmated Sandpiper begins and ends a week or two later than that of the Least Sandpiper. During the greater part of August, however, the two species may be found together and in about equal numbers. The Semipalmated used to occur abundantly along Charles River where it frequented the salt marshes, tidal creeks and mud flats, all the way from West Boston Bridge to the Watertown Arsenal. I have also seen it repeatedly in the marshes lying between the Glacialis and Little River, and Mr. John H. Hardy, Jr., writes me that he has killed it at Great Meadow. In the summer of 1875 the water in Fresh Pond was drawn down to an exceptionally

¹ Nos. 232 and 233, collection of William Brewster.

low level, laying bare a considerable portion of the sandy bottom of Cambridge Nook. Here, on August 4 of the year just mentioned, I found a flock containing upwards of one hundred Semipalmated Sandpipers besides a few Least Sandpipers and about a dozen Ring-necked Plover.

Although I have few definite notes of the occurrence of the Semipalmated Sandpiper within the past few years, there can be little question that it continues to resort to several of the localities just mentioned. I cannot remember ever seeing it in spring, but it probably visits us occasionally at that season.

65. *Calidris arenaria* (Linn.).

SANDERLING.

Rare transient visitor in autumn.

I know of but one instance of the occurrence of the Sanderling in the Cambridge Region, *viz.*, that of a solitary bird which I found on September 6, 1875, feeding on the shores of Fresh Pond. The species has been noted at several localities still further inland in Massachusetts, as well as in other parts of New England, but, as a rule, it is very strictly confined to our seacoast, where it frequents sandy beaches and is still common, at its seasons of migration, especially in early autumn.

66. *Limosa hæmastica* (Linn.).

HUDSONIAN GODWIT.

Exceedingly rare transient visitor in autumn.

Mr. Outram Bangs tells me that he saw a Hudsonian Godwit near the head of tide-water in Charles River in August or September about 1875. It was feeding, not far from the Watertown Arsenal, on a muddy island formerly much frequented by Yellow-legs, Ring-necked Plover, and Least and Semipalmated Sandpipers. This is the only instance known to me of the occurrence of the Hudsonian Godwit in the Cambridge Region. There is a record of a

specimen taken about equally far inland, at Dedham, Massachusetts, "by G. E. Browne and now in his collection."¹ The species is a not uncommon — if somewhat irregular — migratory visitor, in summer and autumn, to the more extensive salt marshes along our coast, especially those at Ipswich and near the extreme end of Cape Cod. It is seldom noted anywhere in New England in spring, and is believed to return to its breeding grounds at the North chiefly through the interior of the United States.

67. **Totanus melanoleucus** (Gmel.).

GREATER YELLOW-LEGS. WINTER YELLOW-LEG.

Common transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

March 30, 1870, six seen (Newtonville), C. J. Maynard.

April 20 — May 20.

May 29, 1899, one seen (Concord), W. Brewster.

August 1 — October 20.

November 4, 1897, one seen (Concord), W. Brewster.

Nuttall, writing in 1834, characterized² the Greater Yellow-legs as "so uncommon" in Massachusetts "that it may be considered almost as a straggler" which then, as he believed, confined its visits in autumn "chiefly to the eastern extremity of Cape Cod and Cape Ann," and proceeded northward in spring "principally by an inland route." During the past twenty or thirty years, however, it has been one of the commonest of our larger migratory waders in both spring and autumn, occurring about our inland ponds and marshes almost as frequently as along the seacoast. Mr. W. A. Jeffries tells me that until very recently it has been regularly seen in spring on the flats of the Back Bay Basin, and between 1865 and 1875 I often met with it in autumn at Fresh Pond and the Glacialis where, as I am assured by Mr. O. A. Lothrop, it has been observed repeatedly within the past six or eight years. According to Mr. John H. Hardy, Jr., it has been taken at Spy Pond and also at Great Meadow.

¹ A. P. Morse, Birds of Wellesley and Vicinity, 1897, 18.

² T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Water Birds, 1834, 148, 149.

If, as is not improbable, Nuttall, in the passage above quoted, used the term 'uncommon' in a comparative sense, his statement is not difficult to understand, for Eskimo Curlew, Golden Plover, and certain other large Limicoline birds which frequented the Massachusetts seaboard in countless thousands sixty or seventy years ago, have since almost ceased to visit it at all. In comparison with these species the Greater Yellow-legs may have seemed as uncommon to Nuttall as it seems common to the sportsmen of the present time and yet not have changed its own status materially in the interim. As far as my own observations go to show, its numbers have remained about the same during the last quarter of a century.

68. *Totanus flavipes* (Gmel.).

YELLOW-LEGS. LESSER YELLOW-LEGS. SUMMER YELLOW-LEG.

Transient visitor, formerly common in late summer and early autumn, now rare at all seasons.

SEASONAL OCCURRENCE.

May 3, 1868, three seen, Cambridge, W. Brewster.

August 4, 1875, one seen, Fresh Pond, W. Brewster.

September 15, 1868, one seen, Fresh Pond, W. Brewster.

Nuttall's account of the Lesser Yellow-legs contains the following charmingly quaint and picturesque passage which evidently relates chiefly, if not wholly, to his personal experience with the bird in the marshes bordering the tidal reaches of Charles River in Cambridge and Brighton: "At the approach of autumn small flocks, here also, accompany the Upland Plover (*Totanus Bartramius*,) flying high, and whistling, as they proceed inland to feed, but returning again towards the marshes of the sea coast to roost. Sometimes, and perhaps more commonly at the approach of stormy weather, they are seen in small restless bands, roving over the salt marshes, and tacking and turning along the meanders of the river, now crossing then returning, a moment alighting, the next on the wing; they then spread out and reconnoitre, again closing in a loose phalanx, the glittering of their wings and snow white tails, are seen conspicuous as they mount into the higher regions of the air; and now intent on some more distant excursion, they rise, whistling on their way, high over the village spire, and beyond the reach of danger, pursue their way to some other clime, or to

explore new marshes and visit other coasts more productive of their favorite fare. While skimming along the surface of the neighboring river, I have been amused by the sociability of these wandering waders. As they course steadily along, the party, never very numerous, would be joined by some straggling Peeps, who all in unison pursue their route together like common wanderers, or travellers, pleased and defended by the access of any company."¹

During the earlier years of my own field experience a good many Summer Yellow-legs continued to resort each season to the marshes along Charles River. I also used to meet with them rather frequently about Fresh Pond and the Glacialis, and I have a mounted specimen which I killed on August 24, 1875, at the edge of a stagnant pool on the Stimpson farm, Cambridge, not far from the present point of intersection of Appleton Street and Huron Avenue. Mr. John H. Hardy, Jr., includes the species in a manuscript list of the birds which he has shot at Great Meadow, and he further informs me that it has been taken at Spy Pond.

The Lesser Yellow-legs is not known to have ever been a frequent visitor in spring to any part of New England. I have but one record of its occurrence at this season in the Cambridge Region, *viz.*, that of three birds which I found feeding near the foot of Vassall Lane, in a meadow bordering Muskrat Pond, on May 3, 1868. They were very tame and I watched them for a long time, standing within a few yards of them and making an absolutely certain identification.

At most places on or near the coast of Massachusetts the Summer Yellow-leg was very much more numerous than its larger cousin thirty or forty years ago. If I am not greatly mistaken it has since become, throughout New England, rather the less common of the two. Nor is this to be wondered at, for it is one of the least suspicious of the larger waders and our gunners have never shown it any mercy. The fact that its visits to the Cambridge Region have been much less frequent of late than in earlier days is evidently due, however, largely to the destruction, partial or complete, of so many of its former feeding grounds, especially those once furnished by the extensive salt marshes bordering on Charles River. I am told that a few birds continue to appear on the mud flats of the Back Bay Basin, and I do not doubt that others are occasionally seen in the Fresh Pond Marshes, although I have no records of the recent occurrence of the species in the latter locality.

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Water Birds, 1834, 153-154.

69. *Helodromas solitarius* (Wils.).

SOLITARY SANDPIPER.

Common transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

May 6, 1878, one ad. male¹ taken, Cambridge, H. M. Spelman.

May 12 — 23.

June 5, 1889, one ad. female² taken, Fresh Pond Swamps, W. Brewster.

July 7, 1889, one seen and heard, Pout Pond, W. Brewster.

August 10 — September 30.

November 28, 1895, one seen, Mount Auburn, W. Robinson.

The Solitary Sandpiper is one of the few waders that have not diminished perceptibly in numbers within the past thirty years. It always occurs commonly, and often really abundantly, in both spring and autumn, visiting most of our open fresh-water marshes and pond shores and also the margins of sluggish brooks and small, isolated pools which are more or less shaded by trees or bushes. In Nuttall's day "a pair, but oftener a single individual, . . . usually frequented, very familiarly, the small fish-pond in the Botanic Garden in Cambridge."³ I have seen as many as five or six birds at one time scattered along the margin of a pool on the Stimpson farm near the head of Vassall Lane and I have known others to appear about the artificial ponds in Mount Auburn, but during the earlier as well as later years of my personal experience the species has been met with oftenest and in the greatest numbers in the Fresh Pond Swamps and at Rock Meadow.

The June date, given above, relates to a specimen which I shot near Little River. It appeared to be unable to fly, and on dissecting it I found that one of its wings had been broken some time before and that the bones had reunited in such a way as to render the wing practically useless for flight, facts which sufficiently accounted for the presence of the bird in this locality so very late in the season.

¹ No. 828, collection of H. M. Spelman.

² No. 30,169, collection of William Brewster.

³ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Water Birds, 1834, 160.

70. *Bartramia longicauda* (Bechst.).

BARTRAMIAN SANDPIPER. UPLAND PLOVER. FIELD PLOVER.

Transient visitor, formerly not uncommon in autumn.

SEASONAL OCCURRENCE.

April 20, 1869, one heard, Cambridge, W. Brewster.

May 6, 1870, one ad. male¹ taken, Cambridge, W. Brewster.

July 26, 1894, one seen, East Watertown, W. Brewster.

September 14, 1890, one heard, Cambridge, W. Brewster.

Whenever I have occasion to spend the month of August in Cambridge, I am nearly sure to hear — although much less frequently now than formerly — the rapid, musical flight-calls of Upland Plover migrating by night, or in the early morning, low over the house. Some of these passing birds were accustomed, up to within a very few years, to resort for food and rest to a rough, boggy pasture which bordered the Brighton side of the Longfellow Marshes. A broad extent of gently sloping mowing fields in the eastern part of Waltham, not far from the Gore estate, also used to attract a good many others, as I am informed by Mr. Outram Bangs. I have found single birds in late April or early May, in the grass fields near Vassall Lane, as well as in those to the westward of Hill's Crossing, Belmont, but that happened more than thirty years ago. The places just mentioned are the only ones in the Cambridge Region where I have ever known the Field Plover to alight. I fear that it no longer frequents any of them, but its voice, as I have just said, has not wholly ceased to be heard overhead. It is one of the most pleasing as well as characteristic of the sounds which mark the near approach of autumn.

The Bartramian Sandpiper is prized by epicures for the delicacy of its flesh, and the zeal with which it is pursued by sportsmen and market hunters will account, no doubt, for the fact that the beautiful bird has diminished alarmingly in numbers within recent years, not only in Massachusetts but elsewhere along the Atlantic coast and also over most of its extensive range in western North America. Within my recollection Field Plover have nested plentifully on the grassy hills of Worcester County, Massachusetts, and on those of southern Maine and New Hampshire, but there are few localities in New England where one can be sure of finding the birds in summer at the present time.

¹No. 3810, collection of William Brewster.

71. *Actitis macularia* (Linn.).

SPOTTED SANDPIPER.

Common summer resident.

SEASONAL OCCURRENCE.

April 21, 1896, one seen, Arlington, W. Faxon.

April 26—September 30.

November 1, 1903, one seen, Fresh Pond, A. C. Comey.

NESTING DATES.

May 25—June 5.

The Spotted Sandpiper is common almost everywhere, during the breeding season, throughout the open and cultivated but more thinly settled portions of the Cambridge Region. It nests, as a rule, in barren fields, and in strawberry beds and patches of potatoes or other low-growing vegetables, often at a considerable distance from water and always on ground not subject to inundation. A picturesque, rocky island which formerly existed in the upper mill-pond at Waverley, in what is now the Beaver Brook Reservation, was once sure to harbor a breeding pair, and within the past few years several birds have nested regularly in the clay-pits at the eastern end of the Fresh Pond Swamps.

As soon as the young Spotted Sandpipers are able to fly, they, with their parents, resort to the margins of our larger ponds and to the salt marshes and tidal creeks along Charles River. They used to frequent the Cambridgeport and Longfellow Marshes in considerable numbers in July and August, and they continue to be seen frequently during these months, as well as in late April and early May, about the shores of Fresh, Spy, and the Mystic Ponds.

72. *Oxyechus vociferus* (Linn.).

KILLDEER.

Rare transient visitor in spring and autumn and very rare summer resident.

Mr. Outram Bangs tells me that he used to find Killdeer about the Back

Bay Basin, thirty or more years ago, and Mr. M. Abbott Frazar once showed me a set of four eggs which a boy had taken (in 1880 or 1881, if I remember rightly) on some filled land now occupied by the Back Bay Fens. Another pair almost certainly bred in June, 1903, on the Cambridge side of the Basin not far from the northern end of Harvard Bridge where, on a wide expanse of flat, gravelly land that has replaced the salt marsh of earlier days, both birds were repeatedly seen together during the first half of the month by several Cambridge ornithologists, among whom were Mr. Walter Faxon and Mr. Ralph Hoffmann.

I have met with the Killdeer only twice in the Cambridge Region—in April, about 1865, when I flushed a shy, noisy bird in a ploughed field at the eastern end of the Brickyard Swamp, and on June 30, 1898, when I spent an hour or more watching a pair that had settled for the season near the same locality in a large, well-drained clay-pit, the bottom of which was in most places covered with a dense growth of short, wild grasses and white clover, although there were also wide spaces of bare, clayey earth and occasional pools of water. The presence of these birds was made known to me by Mr. O. A. Lothrop who, with his friend, Mr. Alton H. Hathaway, had had one if not both of them under close observation for upwards of four weeks. They were seen together, however, only on the occasion just mentioned, when they behaved as if they had young, but my search for the latter proved as fruitless as had been that previously made for the eggs by Messrs. Lothrop and Hathaway. These birds were not noted after July 2, nor did they return to the clay-pit the following year.

In November, 1888, immense numbers of Killdeer Plover invaded New England, driven, it is supposed, from the South by a violent storm.¹ Many of them spent the entire winter in Massachusetts, and one was killed by Dr. W. P. Coues on December 25, of the year just mentioned,² in the Longfellow Marshes, not far from where the Harvard University Boathouse now stands. This specimen is the only one known to me that has ever been actually taken in the region covered by the present Memoir, but I have another—a fine adult male—which was shot in Newtonville by Mr. C. J. Maynard on April 7, 1873. There is a recent record of a bird which was seen in a ploughed field at Belmont on October 19, 1901.³

¹ A. P. Chadbourne, *Auk*, VI, 1889, 255-263.

² [Editor,] *Ornithologist and Oölogist*, XIV, 1889, 14.

³ H. M. Turner and R. S. Eustis, *Auk*, XIX, 1902, 78.

73. *Ægialitis semipalmata* (Bonap.).

SEMIPALMATED PLOVER. RING-NECKED PLOVER. RING-NECK.

Transient visitor, seldom seen in spring but formerly common in autumn.

SEASONAL OCCURRENCE.

May 25, 1871, several seen, Longfellow Marshes, W. Brewster.

August 4, 1875, twelve or more seen, Fresh Pond, W. Brewster.

August 10 — September 15.

September 26, 1901, five seen, Charles River Marshes, W. Brewster.

The pretty little Ring-necked Plover used to occur commonly and very regularly, in August and early September, throughout the salt marshes along Charles River all the way from Whittemore Point, Cambridgeport, to the Watertown Arsenal. It also visited some of our larger ponds, especially during seasons when the water was exceptionally low. On September 2, 1869, I met with a large flock scattered along the western shore of Sherman's Pond, Waltham. On August 4, 1875, I saw a dozen or more birds feeding, in company with great numbers of Semipalmated Sandpipers and a few Least Sandpipers, on a sandy flat in Cambridge Nook, Fresh Pond; here I shot two Ring-necks on September 6 of the year last mentioned.

I have no evidence to offer that the Semipalmated Plover has ever been noted at Spy Pond or the Mystic Ponds, but Mr. John H. Hardy, Jr., writes me that he has taken it at Great Meadow. Of its occurrence in spring I can give but one definite record — that of several birds which I saw flying about over the Longfellow Marshes on May 25, 1871. Its visits in summer and autumn have been becoming less and less frequent of late, owing, no doubt, to the fact that most of its former feeding grounds have been drained or filled. Indeed, within the past few years, I have seen it only in limited numbers, on the muddy banks of Charles River near the Cambridge Hospital. I am assured by Dr. A. H. Tuttle, however, that it continues to appear rather numerous in late summer about the Back Bay Basin, where it feeds on the oozy flats exposed at low tide and also to some extent in depressions of the filled land on the Cambridge side of the river near Harvard Bridge, where surface water often collects in shallow pools after heavy rains.

74. *Colinus virginianus* (Linn.).

BOB-WHITE. QUAIL.

Permanent resident, sometimes abundant.

NESTING DATES.

June 20 — 30.

In the region about Cambridge, as at most northern localities, Quail vary greatly in numbers from year to year. They breed so rapidly that whenever they are favored by a succession of mild winters they soon become abundant despite their numerous enemies. But a single severe winter accompanied by deep snows and icy crusts will often reduce them to the point of extinction, as has happened several times within my experience in this neighborhood. During the years of their greatest abundance I have started as many as five or six bevs in a single day in autumn, in Arlington, Belmont or Waltham, or heard, in June or July, the '*bob-white*' of three or four males coming from as many directions at once. Within these towns the best quail grounds, since time immemorial, have been the crest and western slopes of the long ridge that extends from Arlington to Waverley and the country lying immediately about Rock Meadow. Here the birds are still more or less common at all seasons, frequenting the outskirts of cultivated fields in summer and autumn, haunting wood edges and pastures grown up to cedar and barberry bushes in winter and early spring. They depend largely for subsistence on the fruit of the cedar and barberry when the ground is deeply covered with snow.

Until comparatively recently Quail were always to be found in autumn and winter in the Fresh Pond Swamps, and also in the region between Mount Auburn and the Watertown Arsenal; but such instances of their near approach to the confines of a populous city were quite eclipsed by the presence of a bevy during the greater part of each autumn for several successive years, in the immediate neighborhood of Harvard Square. It usually contained eight or ten Quail, and its habitual range included Norton's Woods, Jarvis Field, and the gardens and cultivated grounds lying along Kirkland Street and the western portions of Broadway and Harvard Streets. On one occasion several of the birds alighted on Cambridge Common in the midst of a number of boys who were engaged in playing baseball; on another my neighbor Mr. Walter Deane was surprised beyond measure by flushing the entire bevy from a grass plot within fifteen

feet of his house on Brewster Street. Mr. Deane's experience occurred in September, 1883, and that year, if I remember rightly, was the last when Quail were seen in the parts of Cambridge just mentioned.

75. *Bonasa umbellus* (Linn.).

RUFFED GROUSE. PARTRIDGE.

Permanent resident, formerly very common.

NESTING DATES.

May 15 — 25.

Ruffed Grouse were common enough at all seasons, twenty-five or thirty years ago, in the wooded portions of Arlington, Belmont, Lexington and Waltham. In autumn and winter a few could always be found in the Fresh Pond Swamps and also on the cedar- and pine-clad ridges just to the westward of Mount Auburn, while during the season of Partridge 'madness' (October and November) an occasional straggler was even known to invade the more densely populated parts of Old Cambridge or Cambridgeport. But the cutting away of woods, and especially of undergrowth, the building of houses, the multiplication of dogs and cats, and the ever growing persecution on the part of the sportsmen, have combined to render most of the former haunts of the Partridge within the Cambridge Region no longer tenable. A few birds still linger, however, in the more retired portions of the towns above mentioned, especially in the neighborhood of Arlington Heights and Waverley; one was seen by Capt. Wirt Robinson in the Maple Swamp as lately as 1897 and a nest containing eggs was found by Mr. O. A. Lothrop in Belmont as recently as May, 1902.

[*Tympanuchus americanus* (Reich.). PRAIRIE HEN. In the early spring of 1884 or 1885 six pairs of Prairie Hens, brought from Iowa, were liberated by Mr. Robert B. Nesbitt of Cambridge at various points along Concord Avenue between Belmont and Concord. He tells me that he was afterwards informed — on somewhat questionable authority, however — that several of these birds reared broods of young that season. I can vouch for the fact that a year or two later an adult male spent most of the spring in a grain field near the village of Carlisle, Massachusetts, where it was seen by my friend Mr. George H. Robbins and several of his neighbors. Another bird of the same sex was met with by Mr. Walter Faxon in the Fresh Pond Swamps (on the Arlington side of Little River) on May 14, 1892. The latter instance might be taken to

indicate that at least a few of these Grouse may have succeeded in maintaining themselves for a number of years, but there are no good reasons for believing that any of them are still living or have left living descendants. In short the attempt to establish them permanently in the Cambridge Region, as well as in certain other parts of Massachusetts where they were liberated at about the same time, has evidently proved a complete failure.]

[*Tympanuchus cupido* (Linn.). HEATH HEN. It is probable that Wood refers to this Grouse when he speaks of the 'Heathcocke' in his poetical enumeration of "such kinds of Fowle as the Countrey affoord." The word occurs in the following line: "*The Turkey-Pheasant, Heathcocke, Partridge rare.*" In the following text he says: "Pheafons be very rare, but Heathcockes, and Partridges be common; hee that is a husband, and will be stirring betime, may kill halfe a dozen in a morning." He adds: "The Partridges be bigger than they be in *England*, the flesh of the Heathcockes is red, and the flesh of the Partridge white."¹ This indicates that his 'Heathcocke' must have been the Heath Hen, and his Partridge the Ruffed Grouse. What his 'Pheafon' was we can only conjecture. Apparently he was not personally familiar with the bird and he probably learned of it through the Indians, who may have had the Spruce Grouse in mind, or, perhaps, from white men who had been in Virginia, where the Ruffed Grouse was and still is called 'Pheasant.'

Josselyn asserts that "the Countrey hath" no "*Pheafants, nor Woodcocks, nor Quails,*"² but he mentions the "*Partridge*" which, he says, "is larger than ours, white flesht, but very dry, they are indeed a fort of *Partridges* called *Groofes.*"³ This passage relates, of course, to the Ruffed Grouse.

Morton's testimony on these points is so interesting that I give it in full. It is as follows: "There are a kinde of fowles which are commonly called Pheifants, but whether they be pheifants or no, I will not take upon mee, to determine. They are in forme like our pheifant henne of England. Both the male and the female are alike; but they are rough footed; and have staring fethers about the head and neck, the body is as bigg as the pheifant henne of England; and are excellent white flesh, and delicate white meate, yet we feldome bestowe a fhoote at them.

"Partridges, there are much, like our Partridges of England, they are of the same plumes, but bigger in body. They have not the signe of the horsehoe on the breft as the Partridges of England; nor are they coloured about the heads as those are; they sit on the trees. For I have seene 40. in one tree at a time: yet at night they fall on the ground, and sit untill morning so together; and are dainty flesh.

"There are quailles also, but bigger then the quailles in England. They take trees also: for I have numbered 60. upon a tree at a time. The cocks doe call at the time of the yeare, but with a different note from the cock quailles of England."⁴

Despite what Morton says to the effect that its flesh was white, I am inclined to believe that his 'pheifant' must have been the 'Heathcocke' of Wood, which, as I have already stated, was almost certainly the Heath Hen of later authors. The 'Partridges' mentioned by Morton

¹ William Wood, *New Englands Prospect*, ed. 2, 1635, 22-23, 25. Charles Deane's ed., 1865, 29, 30, 32.

² John Josselyn, *New-Englands Rarities Discovered*, 1672, 12, 13. E. Tuckerman's ed., 1865, 46-47.

³ John Josselyn, *Two Voyages to New-England*, ed. 2, 1675, 99. W. Veazie's reprint, 1865, 78.

⁴ Thomas Morton, *New English Canaan*, 1637, 70. Ed. C. F. Adams, Jr., 1883, 193-195.

were, without much doubt, Ruffed Grouse, and his 'quailles,' unquestionably Bob-whites which, as he asserts, occasionally "take trees also."

Nuttall, writing of the Heath Hen in 1832, says: "Along the Atlantic coast, they are still met with on the Grouse plains of New Jersey, on the brushy plains of Long Island, in similar shrubby barrens in Westford, Connecticut, in the island of Martha's Vineyard on the south side of Massachusetts Bay; and formerly, as probably in many other tracts, according to the information which I have received from Lieut. Governor Winthrop, they were so common on the ancient bushy site of the city of Boston, that laboring people or servants stipulated with their employers not to have the *Heath-Hen* brought to table oftener than a few times in the week!"¹ The final statement in the above passage has a familiar sound, for with the substitution of 'salmon' or 'shad' for '*Heath-Hen*' it appears in the early annals of several New England towns. If 'laboring people' and 'servants' were really ever surfeited with the flesh of Heath Hens killed on the hills now occupied by the city of Boston, the birds must have also visited the Cambridge shores of the Back Bay.

I have been permitted to quote the following interesting passage from 'Notes of conversations with Eliza Cabot written down by her son, J. E. C[abot],' and printed for private circulation in 1904: "I recollect the Western prairie grouse in this part of the country. I saw one once in Newton; and once, after I was married, your father went down to the Cape, fishing, and in the woods there I saw a grouse very near me, and saw him puff up that orange they have on the side of the neck."² Eliza Cabot was born on April 17, 1791, and married about 1811. Her granddaughter, Mrs. Charles Almy, thinks it probable that she saw the Grouse in Newton about the beginning of the nineteenth century, and the one on 'the Cape' (Cape Cod, no doubt) about 1812. That both birds were Heath Hens can scarcely be doubted, for there is no evidence that living western Grouse of any kind were introduced into Massachusetts at so early a period.

From the evidence above cited we may assume with reasonable safety that the Heath Hen was found rather numerous on the "ancient bushy site" of Boston, at the time that city was founded, while there are also reasons for believing that it frequented many other localities, more or less similar in character, along the neighboring coast, probably ranging as far northward as Cape Ann. Apparently it was exterminated nearly everywhere by the English colonists not long after this coast region became generally settled, and perhaps before 1650. Mrs. Cabot's testimony indicates, however, that it had not wholly disappeared from Cape Cod, nor even from the immediate neighborhood of Boston, at the beginning of the past century. On the island of Martha's Vineyard it has continued to exist in limited and varying numbers down to the present day.]

[*Phasianus torquatus* Gmel. RING-NECKED PHEASANT. 'MONGOLIAN PHEASANT.' This fine bird, the Ring-necked Pheasant, has apparently become permanently established in the Cambridge Region — as well as in many other parts of Massachusetts — during the past eight or ten years. Although not as yet very numerous represented in our immediate neighborhood, it appears to be already rather generally distributed there, especially in portions of Cambridge, Arlington, Belmont and Watertown. It is perhaps seen oftenest and in the greatest numbers in the region lying immediately to the north and west of Fresh Pond. Here as else-

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 662.

² [J. E. Cabot,] J. Elliot Cabot [Autobiographical sketch — Family reminiscences — Sedge birds], 1904, 94.

where it frequents practically every kind of ground, although it is found less often — at least in summer — in dense woods than in open, thinly settled farming country, where it feeds at morning and evening well out in cultivated or grassy fields and skulks during the remainder of the day about the edges of briery thickets or in beds of rank herbaceous plants. In these respects its habits resemble those of our Quail. Like that bird, too, it sometimes comes close about buildings when the ground is deeply covered with snow and food difficult to obtain. During the winter of 1902-1903 a dozen or more Pheasants were frequently seen, shortly after sunrise, feeding on a large manure heap near a barn on the Hittinger farm, just to the westward of Fresh Pond. When disturbed they invariably separated into two flocks which flew off in different directions. It is said that a nest containing eggs was found not far from the eastern confines of this farm in the spring of 1902.

I have compiled the following brief statement of the more important facts and dates relating to the introduction of these Pheasants from the annual reports of the Massachusetts Commissioners of Inland Fisheries and Game.¹

In the summer of 1894 a few birds were obtained, apparently from Oregon, by Mr. Samuel Forehand and by him were presented to the Massachusetts Commissioners of Inland Fisheries and Game who erected a 'State aviary' for their reception at Winchester. Although a number of eggs were laid, it does not appear that any chicks were reared that season.

Early the next spring twelve more birds (three cocks and nine hens) were received, also from Oregon. They bred so successfully that by the close of the summer there were considerably more than seventy-five young birds, many of which were allowed to escape into neighboring gardens and woods.

The following year over two hundred chicks were reared in the aviary, while nests with eggs and broods of young, belonging to escaped birds, were found in various parts of Winchester.

In 1897 nine pairs of mature birds were liberated in Winchester, and a number of broods of young were seen in that town. A Pheasant was killed in Watertown during this year.

In their report for 1899 the Commissioners state that "there have been but few [Pheasants] liberated in Winchester from the State aviary, yet this and the surrounding towns are becoming fairly well stocked. . . . On one estate, within two miles of the aviary, the owner reports that not less than seven or eight broods have been seen this season, and surely not less than fifty birds reared."

From the standpoint of the naturalist the introduction of most exotic forms of animal life must ever be a matter of regret rather than of satisfaction. And these Pheasants, despite their undeniable beauty of form and coloring and reputed value as game, seem deplorably out of place in a New England landscape. Even if they do not crowd out our Quail or Ruffed Grouse,—as

¹In these reports the birds are invariably referred to as 'Mongolian Pheasants,' and the Commissioners distinctly assert in one connection (Report for 1894, p. 17) that they declined to purchase specimens of the "ordinary ring-neck, a very different pheasant from the Mongolian." I have had no opportunity of closely examining any of the birds which they have introduced, but other ornithologists who have done so (among whom may be named as good an authority as Mr. Outram Bangs) have unhesitatingly pronounced them to be *P. torquatus*. Mr. Robert Ridgway in the last edition of his 'Manual of North American Birds' (p. 206) cites *torquatus* among the species which have become naturalized in Oregon (whence our Massachusetts birds were originally derived) and does not mention the Mongolian Pheasant as occurring in North America at all. A recent popular writer on Pheasants also refers to "the so-called 'Mongolian' pheasant, properly the China Ring-neck, or *Torquatus*"; adding, "the true Mongolian has never reached this country alive." (Homer Davenport, *Country Life in America*, IV, 1903, 335.)

it has been feared they may eventually do,—or devastate our cultivated crops,—as they are already accused of doing,—it would have been much wiser to expend the time and money which have been devoted to their naturalization in fostering and increasing our stock of native game birds.]

[*Meleagris gallopavo silvestris* (Vieill.). WILD TURKEY. The works of Morton, Wood, Josselyn and other early writers on New England furnish convincing evidence that the Wild Turkey was abundant in eastern Massachusetts when the country was first settled. Morton, referring, no doubt, to his experience at Merrymount, now Wollaston, only a few miles south of the Cambridge Region, where he lived from 1625 to 1628, and again in 1629 and 1630, says: "great flocks [of Turkeys] have fallied by our doores; . . . 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."¹ Wood confirms this by stating that "sometimes there will be forty, three-score, and an hundred of a focke, sometimes more and sometimes leffe; their feeding is Acornes, Hawes, and Berries, some of them get a haunt to frequent our *Englilh* corne: In Winter when the Snow covers the ground, they refort to the Sea shore to looke for Shrimps, and such small Fishes at low tides. Such as love Turkie hunting, muft follow it in Winter after a new falne Snow, when he may follow them by their tracts; some have killed ten or a dozen in halfe a day; if they can be found towards an evening and watched where they peirch, if one come about ten or eleaven of the clocke, he may shoote as often as he will, they will fit, unlesse they be slenderly wounded. These Turkie remaine al the yeare long, the price of a good Turkie cocke is foure shillings; and he is well worth it, for he may be in weight forty pound; a Hen two shillings."² Josselyn mentions seeing, probably at Black Point (now Scarborough), Maine, "threecore broods of young *Turkies* on the side of a Marfh, funning of themselves in a morning betimes, but this was thirty years since [in 1638 or 1639], the *Englilh* and the *Indian* having now [1671] destroyed the breed, so that 'tis very rare to meet with a wild *Turkie* in the Woods."³

That the species was formerly found throughout the Cambridge Region, there can be no reasonable doubt. Turkey Hill in Arlington may well have derived its name from the presence there of this noble bird in early Colonial days. Indeed, Mr. Walter Faxon writes me that an acquaintance of his has seen "in a manuscript diary of the ancestor of an Arlington man . . . an entry of killing some Wild Turkeys in the region about Turkey Hill." At Concord, less than ten miles further inland, the species had not become wholly extinct at the beginning of the past century. The late Steadman Buttrick of that town, a keen lover of field sports and a man of undoubted veracity, who died in 1874, used to delight in narrating how, when a boy, he had made repeated but invariably fruitless expeditions in pursuit of the last Wild Turkey that is known to have lingered in the region about his home. He often saw the bird, a fine old gobbler, but it was so very wary that neither he nor any of the other Concord gunners of that day ever succeeded in getting a fair shot at it. It was in the habit of roosting in some tall pines on Ball's Hill whence, when disturbed, it usually flew for refuge into an extensive wooded swamp on the opposite (Bedford) side of Concord River. Mr. Buttrick was born in 1796. As he was presumably at least twelve or fifteen years of age before he began to use a gun effectively, it is probable that his experience with the Wild Turkey happened some time between 1808 and 1815.]

¹ Thomas Morton, *New English Canaan*, 1637, 69-70. Ed. C. F. Adams, Jr., 1883, 192-193.

² William Wood, *New Englands Prospect*, ed. 2, 1635, 25. Charles Deane's ed., 1865, 32.

³ John Josselyn, *New-Englands Rarities Discovered*, 1672, 9. E. Tuckerman's ed., 1865, 42.

76. *Ectopistes migratorius* (Linn.).

PASSENGER PIGEON. WILD PIGEON.

Formerly a transient visitor in spring and autumn, sometimes occurring in immense numbers; now exceedingly rare, and perhaps extinct.

SEASONAL OCCURRENCE.

April 23, 1875, one ad. male¹ taken, Waltham, W. Brewster.

October 21, 1871, one female taken, Watertown, W. E. D. Scott.

Of the many passages which might be cited, attesting the extraordinary abundance of Wild Pigeons in New England in former times, that published in 1634 by Wood is perhaps the most pertinent to the present connection, since it evidently relates in part to a locality (the neighborhood of Lynn) only a few miles distant from the Cambridge Region to which, without doubt, it might equally well have been applied. It is as follows: "These Birds come into the Countrey, to goe to the North parts in the beginning of our Spring, at which time (if I may be counted worthy, to be beleevd in a thing that is not so ftrange as true) I have seene them fly as if the Ayerie regiment had beene Pigeons; feeing neyther beginning nor ending, length, or breadth of these Millions of Millions. The fhouting of people, the ratling of Gunnes, and pelting of small fhotte could not drive them out of their courfe, but so they continued for foure or five houres together: yet it muft not be concluded, that it is thus often; for it is but at the beginning of the Spring, and at *Michaelmas*, when they returne backe to the Southward; yet are there some all the yeare long, which are easily attayned by such as looke after them. Many of them build amongft the Pine-trees, thirty miles to the North-eaft of our plantations; joyning neft to neft, and tree to tree by their nefts, so that the Sunne never sees the ground in that place, from whence the *Indians* fetch whole loades of them."²

Dr. Samuel Cabot told me, shortly before his death, that when he was at Harvard College (1832-1836) Passenger Pigeons visited Cambridge regularly in both spring and autumn, sometimes in immense numbers. He dwelt particularly on the recollection of a morning in early spring when the ground was still covered with three or four inches of snow and when, as he was crossing the College Grounds

¹No. 215, collection of William Brewster.

²William Wood, *New Englands Prospect*, ed. 2, 1635, 24. Charles Deane's ed., 1865, 31-32.

on his way to a recitation, he was tantalized by the sight of great flocks of Pigeons continually passing overhead towards the westward. The recitation finished, he returned to his room for a gun and followed their line of flight which led to some gravel banks at Simon's Hill, near where the Cambridge Hospital now stands. Here he took a position on the crest of a knoll and in a short time killed eighteen birds. Not far off some men were working a net. They had captured a large number of Pigeons, and Dr. Cabot saw them take several dozens at a single 'strike.'

Such experiences were numbered among those of the past in the Cambridge Region when I began to take an active interest in its birds, but for ten or fifteen years later it was by no means uncommon to meet with a few Pigeons here, even within our city limits. I saw a flock of about fifty at Pout Pond on the morning of September 2, 1868. They came from the northward, and I still remember how distinctly the red breasts of the males showed in the level beams of the rising sun as the birds circled once over the pond; they were apparently looking for a place to alight, but finally kept on southward.

Three years later a really heavy flight passed through eastern Massachusetts between September 2 and 10. I was in the Maine woods at the time, but on my return was assured by game dealers in the Boston markets and by reliable sportsmen of my acquaintance that the birds had been very numerous everywhere and that "thousands" had been killed. At Concord and Reading old pigeon trappers had even used their long neglected nets with some success. My notes state that at Cambridge large flocks were seen passing at frequent intervals for three or four days, and that at night the birds "roosted in pine woods."

On July 6, 1870, I shot a female Passenger Pigeon which was eating red currants in our garden, and on June 20, 1874, I killed another in the same cluster of bushes, the fruit of which, however, could scarcely have been ripe at so early a date. Both these birds were young, — fully grown but still in first plumage. They were exceedingly tame, as was also a third young bird which, early in September, 1878, spent a week or ten days in or near our grounds, feeding, much of the time, in Sparks Street, where I frequently saw it avoid passing carriages by merely moving a little to one or the other side, just as a domestic pigeon would have done under similar circumstances.

Mr. W. E. D. Scott has asserted that in "1870, and before, . . . close to the town [Cambridge], in the vicinity of Mount Auburn, a few [Passenger Pigeons] bred every year."¹ In another and more recently published passage relating to the same period, he has reasserted that at "'The Farm' . . . just back of

¹ W. E. D. Scott, *Bird Studies*, 1898, 203.

Mount Auburn" these Pigeons "still bred in small numbers in the pine woods."¹ In 1869 I was living during the entire spring, summer and autumn in a house situated less than a quarter of a mile from the woods to which Mr. Scott refers, and during this year, and the five or six years immediately preceding, as well as following, it, 'The Farm' was at all seasons one of my favorite and most productive collecting grounds. It was also visited more or less frequently by H. W. Henshaw, Ruthven Deane and several other excellent observers. Had Wild Pigeons been found breeding anywhere in the neighborhood during this period it does not seem likely that the fact would have been known only to Mr. Scott, especially as we were all intimately acquainted with him and his field work when he was at Cambridge. As it has been unknown, all these years, to everyone else, I feel justified in claiming that his statements, above quoted, require confirmation. Probably they were based on his recollection of the capture of the young birds to which I have just alluded, or on that of a female Pigeon which he himself shot on October 21, 1871, in an asparagus bed near Mount Auburn.² All these birds were quite strong enough of wing to have flown a hundred miles or more, but it is not unlikely that some of them were reared in Middlesex County. Indeed I have notes of the breeding of the Passenger Pigeon at two localities in this county in 1875. On May 22 of that year a nest containing a single egg was found in Weston by the late Mr. E. B. Towne. Later that same season my friend, Mr. George H. Robbins, met with no less than three nests, *on which the birds were sitting*, near his house in Carlisle. As he is a careful observer and accustomed by long experience to distinguish Wild Pigeons from Carolina Doves, I have entire confidence in the accuracy of this record.

On April 23, 1875, I killed a fine adult male near the Lyman estate in Waltham. It was the last Pigeon that I have seen, or am likely to see, alive in the Cambridge Region, but on September 30, 1885, Mr. H. W. Henshaw and I, while collecting in the 'Warren Run' (a little to the southwest of Crown Hill), picked up an adult female which had evidently been dead only a few hours and which proved, on dissection, to have been shot through the lungs. Both of these birds, with the young female, taken on June 20, 1874, in our garden, are preserved in my collection.

I find it difficult to believe that the Wild Pigeon has become wholly extinct, but some of my ornithological friends, who have recently investigated the subject rather carefully, are convinced that the only birds now living are a few captive ones in the possession of Professor C. O. Whitman of Chicago, Illinois.

¹ W. E. D. Scott, *Story of a Bird Lover*, 1903, 39, 40.

² This is the only Wild Pigeon mentioned in Mr. Scott's catalogue of the birds which he collected in the region about Cambridge, the original manuscript of which is in my possession.

77. *Zenaidura macroura* (Linn.).

MOURNING DOVE. CAROLINA DOVE.

Rather rare transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

April 8, 1881, one male¹ taken, Belmont, H. M. Spelman.

June 18, 1883, one seen, East Lexington, W. Brewster.

September 18, 1868, one seen, Brickyard Swamp, W. Brewster.

November 15, 1898, one seen near Payson Park, W. Faxon.

NESTING DATES.

May 8—20.

Although the Carolina Dove is a common summer resident of several localities in Concord and Lincoln, it seldom visits the Cambridge Region. I have met with it here on but four occasions—September 18, 1868, when I saw a single bird flying low over the Brickyard Swamp, Cambridge; September 19 of the same year, when another (or perhaps the same) bird was seen in the same place; September, 1878, or 1879, when, as I was driving through Brattle Street, Cambridge, a Dove flew close past me and disappeared among the pines at Elmwood; June 18, 1883, when I started a bird in East Lexington, on the western edge of Rock Meadow. Mr. Walter Faxon tells me that he has personally noted only three birds, the first on September 26, 1890, near the Waverley Oaks; the second on April 18, 1897, at the Mystic Ponds; the third on November 15, 1898, near Payson Park, Belmont.

I have a female Dove (in my mounted collection) which was taken by my friend, Mr. C. M. Carter, on April 19, 1873, in an apple orchard in Belmont, about half a mile to the westward of Fresh Pond, and Mr. H. M. Spelman possesses the badly mutilated skin of a male which he shot at close range, on April 8, 1881, in dense pine woods near Arlington Heights. On April 9, 1887, a bird was seen by Dr. Arthur P. Chadbourne on the Fitchburg Railroad embankment a little to the eastward of the station in Belmont, and on October 7, 1902, another was flushed by Mr. Richard S. Eustis in a thicket lying between the Glacialis and Fresh Pond in Cambridge.

¹ No. 379, collection of H. M. Spelman.

The following lines occur in an attractive little poem on "Sweet Auburn" written by Miss Caroline Frances Orne and published in 1844:

"While the quail whistled in its plaintive tone,
And cooing stock-doves made their gentle moan."¹

As we gather from this poem and its preface, Miss Orne was accustomed in early youth to spending long spring and summer days in the then extensive and primitive woods of what is now Mount Auburn Cemetery. It also appears that she had intimate and, in the main, accurate, knowledge of the common and more conspicuous birds which she met with during her walks. Her expression 'gentle moan' so aptly characterizes the cooing of the Carolina Dove as to suggest that this must have been the species to which she alludes. If such an assumption be granted and if, as may be further inferred, her 'stock-doves' were frequently heard cooing in summer, we may reasonably conclude that the Carolina Dove bred in or near Sweet Auburn in those early days. Nuttall does not mention finding it there, but Lowell says: "A rarer visitant [to Elmwood than the Quail] is the turtle-dove, whose pleasant coo I have sometimes heard, and whom I once had the good luck to see close by me in the mulberry-tree."² Elmwood, of course, lies very near Mount Auburn, and Lowell's passage, although published in 1868, may well have related to experiences which had happened during the earlier years of his life and perhaps at the very time to which Miss Orne refers.

Among the birds of Massachusetts which "yeeld us much profit, and honest pleafure," Wood included, in 1634,

*"The harmonious Thrush, swift Pigeon, Turtle-dove,
Who to her mate doth ever constant prove."*³

His '*swift Pigeon*' was, of course, the Wild Pigeon (*Ectopistes migratorius*), and since he evidently distinguished it from his '*Turtle-dove*' the latter must almost of necessity have been the Carolina Dove which, as we may further assume with some degree of probability, he is most likely to have noted during his residence at Saugus (now Lynn), and hence within a few miles of the eastern boundary of the Cambridge Region.

¹ C. F. Orne, *Sweet Auburn and Mount Auburn, with other Poems*, 1844, 6.

² J. R. Lowell, *My Garden Acquaintance*, *Atlantic Almanac for 1869, 1868*, 37.

³ William Wood, *New Englands Prospect*, ed. 2, 1635, 23. Charles Deane's ed., 1865, 29, 30.

78. *Cathartes aura* (Linn.).

TURKEY VULTURE. TURKEY BUZZARD.

Casual visitor.

The normal range of the Turkey Vulture on or near the Atlantic coast is not believed to extend, at the present time, to the northward of New Jersey, but the bird pays wandering and not so very infrequent visits to New England, usually in spring, summer or early autumn. It has been reported a number of times from eastern Massachusetts and there are two apparently good records for the Cambridge Region, one of a bird seen, by "a gentleman who is perfectly familiar with the appearance" of the species, "flying over the meadows at Waltham in August, 1867,"¹ the other of three birds, observed by Mr. F. H. Hosmer, on September 25, 1898, passing high in air towards the south over Somerville.² Early in April, 1893, Mr. Samuel Smith shot a Turkey Vulture in Weston, not far from the confines of the Cambridge Region, merely breaking its wing and afterwards keeping it in captivity for a year or more.³

To the instances already recorded of the occurrence of the Turkey Buzzard in the more eastern parts of Massachusetts I take the present opportunity to add that of a bird which Mr. William Stone and I saw on wing at South Yarmouth on September 6, 1903. Although flying at no great height, and in the leisurely, effortless manner characteristic of all Vultures, it did not seem to be looking for food, but rather to be journeying to some distant place, for it followed a nearly straight course towards the northwest. After skirting the eastern shores of a brackish sheet of water known as Swan Pond, and skimming close over the tops of some pitch pines, it crossed an open field in which we were standing, passing so near us that we made out the dark red coloring of its naked head and neck with perfect distinctness.

¹ C. J. Maynard, *Naturalist's Guide*, 1870, 137.

² G. H. Mackay, *Auk*, XVI, 1899, 181.

³ F. B. White, *Auk*, XI, 1894, 250.

79. *Circus hudsonius* (Linn.).

MARSH HAWK. FROG HAWK.

Common transient visitor in spring and autumn, formerly breeding in our locality.

SEASONAL OCCURRENCE.

March 1, 1871, one taken, Cambridge, W. Brewster.

March 20—November 10.

November 29, 1893, one female seen (Concord), W. Brewster.

NESTING DATE.

June 5, 1875, nest¹ and four eggs,¹ Waltham, W. Brewster.

Marsh Hawks are wide-roving birds at all seasons, and the occasional appearance of one in May or June does not necessarily indicate that it has a nest near the place where it may happen to be seen. For this reason the actual discovery of the nest is essential to establish the fact of breeding. I know of but one locality within the Cambridge Region where the nest has ever been found, *viz.*, Rock Meadow. Here I took a set of four eggs on June 5, 1875, and a second, comprising the same number, on June 11, 1877, while a third set of four was taken on June 7, 1879, by Mr. H. M. Spelman. These eggs are all in my collection. All three nests were built within a yard or two of the same spot, on a little meadow island covered with wild rose bushes and other low shrubs. My attention was first drawn to this nesting place by the behavior of the birds. On May 21, 1875, I repeatedly saw the male rise to a great height above the meadow island and then return to it by a succession of short, nearly vertical, downward swoops, each of which terminated in a graceful upward turn. While making these plunges he uttered a dry, cackling *kep-kep-kep-kep-kep*. The final drop carried him into the bushes, where he usually remained some time before mounting into the air for another descent. Marking the spot where he invariably disappeared, I approached it unseen, under cover of a neighboring thicket, on the morning of May 24, when I found the pair of Marsh Hawks there. They were very noisy, calling to one another almost incessantly. The note which both birds used on this occasion, a shrill, squealing *quee, quee, quee*, was new to me at the time and I have never heard it since. During the hour or

¹No. 2176, collection of William Brewster.

more that I spent watching them the male was busily engaged in collecting dry grass and flying with it to the nest. He obtained most of it within thirty yards of the island, and none of his flights exceeded one hundred yards in length. The female, meanwhile, sat perched on the top of a stake, encouraging her mate by her voice but taking absolutely no part in his labors, although she once made a brief visit to the nest, apparently merely to see how the work was progressing there. At length the male soared up into the sky and was soon lost to sight in the distance. The female remained and, when I approached the island, circled close about me, squealing loudly. The nest, which proved to be nearly finished, was placed on the ground at the foot of a cluster of bushes. It was a primitive structure, large, almost perfectly flat, and composed of dead sticks covered with a thick layer of dry grass.

I have seen Marsh Hawks at Rock Meadow on several occasions in early summer since 1879, but I doubt if they have bred there within the past ten or fifteen years. They still occur commonly enough during migration about most of the meadows near Cambridge, but their numbers here, as elsewhere in New England, have been steadily decreasing of late.

80. *Accipiter velox* (Wils.).

SHARP-SHINNED HAWK.

Common transient visitor in spring and autumn and not uncommon winter resident; also an occasional summer resident, at least formerly.

SEASONAL OCCURRENCE.

April 3—May 11. (Summer.)

September 7—October 25. (Winter.)

NESTING DATES.

May 20—31.

The Sharp-shinned Hawk is one of the most familiar and least shy of our diurnal birds of prey. It has been repeatedly observed in the very heart of Cambridge, especially since House Sparrows became abundant there. A bird paid several visits to our garden during the winter of 1898-1899, and others have been seen within the past few years in or near the College Grounds, usually in late autumn or winter. The species is met with oftenest, however, during

migration and in thinly settled localities, especially about the edges of woods and the bush-grown borders of fields, where small birds abound. It preys largely on Sparrows and to some extent, also, on Robins in pursuit of which it frequently enters apple orchards near farm buildings.

On May 23, 1870, a nest of the Sharp-shinned Hawk containing five fresh eggs was found by my friend, the late Mr. Frank P. Atkinson, in a white pine swamp in East Lexington about half a mile to the westward of Rock Meadow. This is the only instance known to me of the breeding of the Sharp-shinned Hawk within the limits covered by the present Memoir.

81. *Accipiter cooperii* (Bonap.).

COOPER'S HAWK.

Common transient visitor in spring and autumn and not uncommon summer resident; also found occasionally in winter.

SEASONAL OCCURRENCE.

April 10—October 20. (Winter.)

NESTING DATES.

May 5—20.

Cooper's Hawk is a much more wary and retiring bird than the Sharp-shinned Hawk. I have met with it oftenest in the wilder parts of Belmont, Lexington, Arlington, and Waltham, where its favorite haunts are extensive tracts of woodland, especially such as abound in white pines and other evergreen trees. I also used to see it not infrequently in the region just to the westward of Mount Auburn. When in pursuit of its prey, which consists largely of such birds as Robins, Catbirds, Brown Thrashers, Meadowlarks, and Cuckoos, it often visits fields and meadows, but excepting when attracted by the presence of young chickens, which it seems to prefer to all other birds, it seldom approaches houses or cultivated grounds. I have occasionally seen it passing over densely populated parts of Cambridge during migration, but have never known it to alight there at any season.

Nests of Cooper's Hawk have been found rather frequently along the western borders of the Cambridge Region, especially in Waltham. I have a set of five eggs which I took on May 8, 1880, from a nest in pitch pine woods near Arlington Heights.

82. *Accipiter atricapillus* (Wils.).

AMERICAN GOSHAWK.

Irregular and uncommon winter visitor.

SEASONAL OCCURRENCE.

October 4, 1896, one ad. seen, East Lexington, W. Faxon.

February 26, 1868, one ad. seen, Watertown, W. Brewster.

Goshawks invade eastern Massachusetts only at irregular and rather wide intervals, but sometimes in considerable numbers. They arrive in October and November and most of them pass further southward before January, although some remain with us through the winter. During these flights the beautiful but destructive birds are occasionally noted in the Cambridge Region. I saw a fine adult in a grove of pitch pines immediately behind Mount Auburn on February 26, 1868, and another about a mile to the westward of Rock Meadow on November 16, 1880; while a third was met with by Mr. Walter Faxon at East Lexington on October 4, 1896. I have an adult female that was taken in Lexington on December 14, 1896.

Nuttall states (Land Birds, 1832, 85) that on October 26, 1830, he received "from the proprietor of Fresh Pond Hotel" a Goshawk "in the moult, having the stomach crammed with moles and mice." It "was shot in the act of devouring a Pigeon," probably in the hemlock grove near the hotel.

Mr. C. J. Maynard asserts that a pair of Goshawks "remained in Weston, near a heavily wooded district, during the breeding-season" of 1868, adding "they evidently had a nest in the immediate vicinity."¹ As he does not explain under just what conditions, or even by whom, the birds were observed, one cannot help suspecting that some mistake was made in their identification, especially as we have no definite knowledge that the species has ever bred in Massachusetts. The most southerly breeding record for New England is, I believe, that of a nest which was found by Mr. Ralph Hoffmann at Alstead in southern New Hampshire in 1902.² A young Goshawk taken by Mr. Hoffmann from this nest is in my collection.

¹ C. J. Maynard, *Naturalist's Guide*, 1870, 134-135.

² R. Hoffmann, *Auk*, XX, 1903, 211-212.

83. *Buteo borealis* (Gmel.).

RED-TAILED HAWK. HEN HAWK.

Transient visitor in spring and autumn, locally resident in winter ; formerly very common, now of comparatively rare occurrence.

SEASONAL OCCURRENCE.

October 10 — April 20. (Summer?)

Up to about 1880 the Red-tailed Hawk was decidedly the most numerous represented of our Buteos in autumn, winter and early spring. It may still be seen at these seasons, but only in greatly diminished numbers and much less often than the Red-shouldered Hawk. So far as I have been able to ascertain, it has never been found breeding within the limits of the Cambridge Region, although I have taken the eggs in Bedford and have seen young birds in early summer near Concord.

The Red-tailed Hawk used to occur most commonly in April and November, when the migrations were passing. Its favorite haunts were Rock Meadow, the Fresh Pond Swamps and the extensive open fields and meadows between Hill's Crossing and Belmont. Until very recently one or two birds were always to be found in winter near the Cambridge Cemetery and the Watertown Arsenal on the borders of the Charles River Marshes, where they preyed on the rats and meadow mice which frequented the banks of the tidal creeks and ditches.

[*Buteo cooperi* Cass. COOPER'S HENHAWK. CALIFORNIA HAWK. In November, 1866, a large light-colored Hawk was repeatedly seen in or near the Pine Swamp. It looked so very white, especially when flying, that I suspected it might be a Gyrfalcon. For a time all my attempts to secure it proved unavailing, for it was exceedingly shy; but at length — on the 17th of the month — I surprised and shot it among some dense pines near Pout Pond. The specimen was shown, about three years later, to Dr. J. A. Allen who identified it as *Buteo cooperi* Cassin, and under that title recorded its capture in his 'Notes on some of the Rarer Birds of Massachusetts,' (American Naturalist, Vol. III, 1870, p. 518). Immediately after this Mr. Maynard published a detailed description of the bird, at the same time expressing a conviction that it was merely an exceptionally light-colored example of the Red-shouldered Hawk.¹ This ruling was confirmed a little later by Mr. Ridgway² to whom the specimen was sent for examination

¹ C. J. Maynard, Naturalist's Guide, 1870, 135-136.

² Baird, Brewer, and Ridgway, History of North American Birds, III, 1874, 296.

in 1869 or 1870. Unfortunately it was destroyed by moths soon after Mr. Ridgway saw it. I remember it, however, with perfect distinctness. Although it was very unlike any of the numerous specimens of the Red-shouldered Hawk which have since come under my observation, I do not seriously doubt that Mr. Maynard and Mr. Ridgway were correct in referring it to that species, of which it may have been a partially albinistic representative. *Buteo cooperi* Cassin is now generally believed to have been based on a light phase of plumage of *Buteo borealis harlani* (Aud.).]

84. *Buteo lineatus* (Gmel.).

RED-SHOULDERED HAWK. HEN HAWK.

Permanent resident, common from April to November, not uncommon in winter

NESTING DATES.

April 10 — 20.

Nuttall believed¹ that the Red-shouldered Hawk was "never seen . . . in Massachusetts, nor perhaps much further [north] than the state of New York." Had it occurred regularly near Cambridge in his day he could scarcely have overlooked it, for he was perfectly familiar with its notes and habits, of which he gives an admirable description based on personal observations made in the Southern States. As early as 1867, however, I found the Red-shouldered Hawk common enough in the region about Cambridge. Since then its numbers have not varied greatly from year to year, nor with the different seasons, although it is least numerous in winter and most conspicuous in early spring when its soaring flights and persistent screaming are likely to attract the attention of every one who approaches its haunts. It breeds more or less regularly in retired and heavily wooded parts of Belmont, Arlington, Lexington, and Waltham, but I have never known its nest to be found in Cambridge or Watertown. The birds, however, are often seen in the Fresh Pond Swamps and along the edges of the Charles River Marshes, especially in winter. At this season, when they are nearly or quite silent, they are given to haunting level, open country sprinkled with large, isolated trees. In some of these the Hawks have favorite perches to which they resort day after day and year after year, to bask in the winter sunshine and to watch for meadow mice.

¹T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 107.

85. *Buteo platypterus* (Vieill.).

BROAD-WINGED HAWK.

Uncommon transient visitor in early autumn, rare in spring and summer.

SEASONAL OCCURRENCE.

April 19, 1893, one seen between Waltham and Lincoln, W. Brewster.

April 25—September 30.

October 2, 1875, one im. female taken,¹ Belmont, a gunner.

The Cambridge Region contains few tracts of woodland sufficiently remote and extensive to attract the forest-loving Broad-winged Hawk. Hence this bird is, and indeed has always been, within the period covered by my field experience, the least common of our Buteos. It occurs oftenest during the autumnal migrations which begin about the first of September and usually terminate by the middle of October. The Pine Swamp used to be one of its favorite haunts at this season. I have seen it repeatedly in April, May and June on the eastern slope of a wooded ridge that borders the southern end of what is now Hobbs Brook Reservoir, and I believe that it has bred there within recent years. A fine adult male in my collection was perhaps obtained in this locality. It was brought in the flesh to Mr. M. Abbott Frazar on May 8, 1893, by a Waltham gunner, named Harding, who said that he had shot it the day before in Lincoln, and that he had found it sitting on a nest which contained eggs. The ridge just mentioned lies partly in Lincoln and partly in Waltham and it is often visited by Waltham sportsmen.

The Broad-winged Hawk is of rare and irregular occurrence in summer throughout most if not all of Middlesex County, but it breeds rather commonly in eastern portions of Worcester County, especially in the townships of Harvard, Lancaster and Sterling, where my friend, Mr. John E. Thayer, has frequently found it nesting within the past ten or twelve years. He tells me, however, that it is fast disappearing from that portion of the State, probably because of the fact that many of the tracts of woodland which it formerly frequented have been recently devastated by the wood choppers.

¹No. 300, collection of William Brewster.

86. *Archibuteo lagopus sancti-johannis* (Gmel.).

AMERICAN ROUGH-LEGGED HAWK. ROUGH-LEGGED HAWK.

Transient visitor in spring and autumn, sometimes not uncommon at the latter season.

SEASONAL OCCURRENCE.

March 25, 1900, one seen, Fresh Pond, W. Deane.

May 8, 1879, one seen, Rock Meadow, W. Brewster.

November 3, 1873, one seen, Fresh Pond Marshes, W. Brewster.

November 10—30.

December 28, 1901, one seen, Rock Meadow, R. S. Eustis.

The favorite haunts of the Rough-legged Hawk in the Cambridge Region are Rock Meadow and the Fresh Pond Marshes. Here the sluggish but graceful birds, larger than any of our other Hawks and showing conspicuously white upper tail-coverts, may be seen in late autumn, perched among the upper branches of isolated trees or beating about over the marshes, occasionally poisoning at no great height above the ground on *apparently motionless* wings as if suspended by an invisible wire. This remarkable feat, practised also by the European Kestrel and by our Sparrow Hawk, is possible, I believe, only when there is a light, steady wind.

In November, 1873, I noted no less than five different Rough-legged Hawks at the localities above named, but it is exceptional to see so many in the course of a single season and during some years none are reported. I have met with but one in spring—at Rock Meadow on May 8, 1879. This is a late date, for at Northampton, where the species occurs regularly, and at times rather numerous, during the vernal migration, it seldom or never lingers after the middle of April. There can be no question that the bird seen at Rock Meadow was correctly identified, for I had an excellent view of it and made out all its characteristic markings with perfect distinctness. The only other spring record that I can give for the region about Cambridge is that of a bird which Mr. Walter Deane observed on March 25, 1900, flying over Fresh Pond, closely pursued by some Crows.

Mr. Richard S. Eustis tells me that in 1901 he saw a Rough-legged Hawk near Fresh Pond on December 8, and another at Rock Meadow on the 26th and again on the 28th of the month;—dates which suggest that the species may sometimes spend the winter in our neighborhood, as it is known to do, in very limited numbers, in certain other parts of Massachusetts.

87. *Aquila chrysaëtos* (Linn.).

GOLDEN EAGLE.

Very rare visitor.

A young Golden Eagle in the New England collection of the Boston Society of Natural History was taken at Lexington many years ago (I can find no record of the precise date) and presented to the Society by Dr. Samuel Kneeland. Baird, Brewer, and Ridgway refer to this specimen¹ as "a young male" having "the tail plain black, the extreme base and tip white." They also mention another bird which "was secured alive in Brighton, near Boston, in 1837, by being taken in a trap which had been set for another purpose."² There are a few other records for localities not far distant from the Cambridge Region — as Lynn, Lynnfield, Salem and Weymouth. To the more eastern portions of Massachusetts, however, the Golden Eagle has been ever — at least within historic times — a decidedly rare visitor, usually occurring in winter or late autumn.

88. *Haliaëetus leucocephalus* (Linn.).

BALD EAGLE.

Of irregular and infrequent occurrence at all seasons.

Ever since I can remember, the sight of a Bald Eagle, soaring in majestic circles high in air over our woods and fields or perched on the branch of a tree overlooking one of our fresh-water ponds, has been sufficiently unusual to constitute a really noteworthy experience. I have seen the stately bird oftenest in March or April and at or near Fresh Pond. My notes also record its appearance at various other times and places, sometimes during the months of January and February and occasionally directly over central parts of our city, or even over those of Boston. Its visits to the Cambridge Region are evidently becoming

¹ Baird, Brewer, and Ridgway, *History of North American Birds*, III, 1874, 315.

² *Ibid.*, 316.

less and less frequent as the years go by. As nearly as I can learn, it has been observed here only twice within the past seventeen years; on February 13, 1890, at Mystic Pond, by Mr. Walter Faxon, and on January 18, 1898, near Fresh Pond, by Mr. Alton H. Hathaway.

Elsewhere in eastern Massachusetts, Bald Eagles do not seem to be diminishing materially in numbers. I still see one or two birds nearly every season at Concord, and at Wareham on June 12, 1900, Mr. Outram Bangs and I counted no less than six perched on the trees around the shores of a small pond into which alewives were running at the time. Many of these fish die after depositing their spawn, and are picked up by the Eagles who are ever on the alert to secure such tempting and easy prey. The birds which occur in summer about this and other fresh-water ponds on Cape Cod are usually in immature plumage and obviously not engaged in breeding. Nor is there evidence to indicate that the Bald Eagle has nested within recent times in any part of eastern Massachusetts.

89. *Falco peregrinus anatum* (Bonap.).

DUCK HAWK.

Of rare occurrence in autumn and winter.

Most of the Duck Hawks which migrate through eastern Massachusetts follow the seacoast, where they occur not infrequently in spring and autumn. I can give but two records of their appearance in the Cambridge Region. The first of these relates to a bird which Mr. Walter Faxon found at Fresh Pond on January 7, 1893, and which was last noted there on February 1 following. During the interim it was seen almost daily by one or another of our local observers, usually in or near the hemlock grove. I had an especially favorable view of it on the morning of January 22 when I found it perched on the dead branch of a tall pine where the Fresh Pond Hotel once stood. As it was in strong sunlight and within one hundred yards of me, I was able to make out distinctly, with the aid of my glass, that it was a male in fully mature plumage. The pond was frozen over during its entire stay, but about the large, geyser-like fountain, at the outlet of the supply pipe from Stony Brook Reservoir, there was a space of open water to which several Golden-eyes resorted daily. It is possible that the Falcon was preying on these Ducks, although on one occasion I saw it fly directly over the pool where they were swimming without apparently either noticing or alarming them. Mr. Faxon and I searched the ground carefully beneath all its favorite

perches, but we failed to discover any traces of its victims, save some feathers of a Tree Sparrow which littered the surface of the snow under the tree in which the Duck Hawk was sitting on the 22d.

The other local instance has been communicated to me by Mr. O. A. Lothrop who noted a Duck Hawk at Fresh Pond on October 26, 1899. This bird was perched in the top of one of the oaks on the old Tudor estate.

90. **Falco columbarius** Linn.

PIGEON HAWK.

Rather common transient visitor in spring and autumn; occasionally found in winter, also.

SEASONAL OCCURRENCE.

April 23, 1894, one seen, Cambridge Region, W. Faxon.

April 25 — May 5.

May 16, 1894, one female seen, East Lexington, W. Brewster.

September 15, 1866, one im. taken, Belmont, C. M. Carter.

September 25 — October 20. (Winter.)

For a bird of prey the Pigeon Hawk is a rather common and very regular visitor to the Cambridge Region. Not that it ever occurs numerous or at frequent intervals, but the observer who is much afield and who is able to distinguish the bird from the Sparrow Hawk, which it closely resembles in form and flight, is nearly sure to note it at least once or twice every spring and autumn. It is seen oftenest in April and October, skimming swiftly over open fields and meadows or sitting on the dead branch of some isolated tree that commands a good view of the surrounding country. As a rule it does not remain perched for more than a few minutes at a time. Indeed its life appears to be one of almost ceaseless activity, for it is an eager and persistent hunter, tireless of wing and given to roaming widely in its daily search for food. It sometimes comes boldly into densely populated parts of Cambridge to prey on English Sparrows, usually in winter or very late autumn when most of our smaller native birds, on which it ordinarily depends for food, have departed for the south. I have known it to appear, even within recent years, on Cambridge Common; in the College Yard; at Norton's Woods; and in our garden or its immediate neighborhood. In 1900 an adult male spent the entire month of December at Fresh Pond, making its headquarters in the hemlock grove where the Duck Hawk was seen in January, 1893.

91. *Falco sparverius* Linn.

AMERICAN SPARROW HAWK. SPARROW HAWK.

Formerly an uncommon transient visitor in spring and autumn; now a permanent resident, common during the breeding season, rare and perhaps not always present in winter.

NESTING DATES.

May 5—10.

The pretty little Sparrow Hawk has apparently added itself to our local summer fauna within comparatively recent times. At least the earliest record of its breeding within the Cambridge Region of which I have any knowledge is that which was established by the finding of a nest at Waverley on May 26, 1877. Previous to that year we had seen the bird only during migration when it was somewhat less common than the Pigeon Hawk. Of course we may have overlooked it in summer, but this does not seem probable.

The nest just mentioned contained five eggs far advanced in incubation. It was found by Mr. M. Abbott Frazar and the Messrs. E. A. and O. Bangs in a Flicker's hole near the top of a tall dead sycamore which stood in a hollow by the roadside not far from where the buildings of the Convalescent Home have been since erected. All the eggs were taken, and one of the parent birds was killed.

Eleven years later—on May 12, 1888—a second nest, also containing five eggs, was found in one of the Waverley Oaks by Mr. Frank Bolles. On July 17, 1889, I saw a family of young Sparrow Hawks in Payson Park. After this the birds increased in numbers and extended their local distribution. Since 1895 they have bred more or less regularly at six or seven different places in Cambridge, Belmont and Watertown. In Cambridge they are chiefly confined to the region immediately about Fresh Pond, where nests have been found in Gray's Woods and in the old trees on the Tudor estate. I fear that the birds have reared but few young since their presence in this neighborhood has become generally known, for their nests are not difficult to find and their eggs are too beautiful to be often spared by collectors.

Most of the Cambridge Sparrow Hawks apparently migrate southward in autumn, returning in early spring, but single birds have been noted every month of the year in the neighborhood of Fresh Pond and Mount Auburn, where it is probable that one or two usually remain during at least the greater part of the

winter. The Sparrow Hawk seldom alights in the more densely populated parts of the city, but it often passes over them and I see it occasionally, at all seasons, circling at no great height, above our garden.

92. *Pandion haliaëtus carolinensis* (Gmel.).

AMERICAN OSPREY. FISH HAWK.

Rather common transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

April 2, 1885, one seen, Watertown, M. A. Frazar.

April 5 — 25.

May 29, 1890, one seen, Cambridge, W. Brewster.

August 27, 1899, one seen, Lower Mystic Pond, W. Faxon.

September 15 — October 10.

October 21, 1892, one seen, Arlington, W. Faxon.

At its seasons of migration the Fish Hawk continues to be a regular visitor to most of our larger ponds, and it is occasionally seen along Charles River, also. Of late years it has been observed oftenest in spring, about the Mystic Ponds. It used to occur most numerous in autumn, at Fresh Pond where, during the month of September, thirty or forty years ago, one or two of the big, eagle-like birds were almost constantly present. In those days the untrimmed woods which came to the water's edge along the shores of the Tudor estate, at Strawberry Hill, and at Hemlock Point, afforded plenty of dead stubs or branches on which the Fish Hawks and Kingfishers loved to perch. Both birds found food in abundance here, for the pond then swarmed with alewives and other fish. Since the alewives have been shut out by the filling in of the natural outlet, the Fish Hawks have visited Fresh Pond much less often than formerly. I can find no evidence which indicates that they ever bred in the Cambridge Region, although it is not unlikely that they did so in early Colonial days, when the country was covered with primitive forest. Dr. Allen in his 'Rarer Birds of Massachusetts'¹ mentions "a former nesting site near Ipswich" which, in 1869, was "still remembered by some of the older residents there." The species is a common summer resident of Bristol County, Massachusetts, where it breeds in close proximity to houses and is very generally encouraged and protected by the fishermen and farmers.

¹ J. A. Allen, *American Naturalist*, III, 1870, 569.

93. *Asio wilsonianus* (Less.).

AMERICAN LONG-EARED OWL. LONG-EARED OWL.

Permanent resident, sometimes common in autumn or winter, rare at all other seasons.

NESTING DATES.

April 1—10.

At irregular intervals—perhaps on an average once every five or six years—we have a very considerable influx of Owls from further north. The movement ordinarily begins in October—or even a little earlier—and seldom reaches its height before the middle of November. Many of the birds are killed by sportsmen or collectors, and others, no doubt, go further south to pass the winter, but a certain proportion usually remain with us until early spring. During these flights numbers of Long-eared Owls pass through the hands of our local taxidermists. I have known as many as forty or fifty to be received by one man, in the course of a few weeks, most of them from eastern Massachusetts. No single field observer, however, is likely to meet with more than two or three of the birds in any one season. In autumn I have repeatedly found them roosting by day in deciduous trees or shrubs in the Fresh Pond Swamps, even after the leaves had fallen, but at all times of the year they prefer to haunt dense evergreen woods, especially those which are largely made up of white pines or Virginia junipers.

Two instances of the breeding of the Long-eared Owl in the Cambridge Region have come under my personal observation. On July 18, 1867, as I was walking in company with a friend under some large white pines which at that time covered a hill southwest of Rock Meadow, an Owl of this species came flying close about us, uttering loud and peculiar cries. Shortly afterwards we found one of its young perched in a neighboring tree. The young bird, although fully grown and able to fly, was still clothed, for the most part, in down and hence could not have been long out of the nest. On another occasion (June 12, 1874) I discovered a nest, containing two half-grown young, at Arlington Heights. The nest was in a Virginia juniper which, with a few other trees of the same kind, stood on the outskirts of a dense and extensive piece of woods composed chiefly of pitch pines. The dates just mentioned may seem exceptionally late in comparison with the 'nesting dates' given above, but they are not really so, for the Long-eared Owl, like most birds of prey, requires a long time

for hatching and rearing its young. Thus, while the eggs are usually laid early in April, the young are seldom seen on wing before the first of July.

94. *Asio accipitrinus* (Pall.).

SHORT-EARED OWL.

Transient visitor, uncommon in autumn, rare in spring. One instance of occurrence in midwinter.

SEASONAL OCCURRENCE.

March 15, 1901, one seen, Fresh Pond Marshes, W. Faxon.

April 15, 1901, one seen, Fresh Pond Marshes, W. Faxon.

September 24, 1881, one seen, Fresh Pond Marshes, H. M. Spelman.

October 15 — November 30. (Winter.)

Although the Short-eared Owl is found regularly and at times really numerous — especially in late autumn — in the salt marshes and sand dunes along the seacoast of Massachusetts, it is uncommon at most inland localities, and my notes, covering a period of more than thirty years, record less than a dozen instances of its appearance in the Cambridge Region. Nearly all of these relate to the Fresh Pond Swamps. Here, in the broad, open meadows lying between the Glacialis and Little River, I have repeatedly started Short-eared Owls in October or November while looking for Wilson's Snipe. I have a specimen which was killed in these marshes on April 4, 1872, and Mr. Walter Faxon tells me that he saw another there on April 15, 1901. A third, in Mr. O. A. Lothrop's collection, was taken by Mr. Henry C. Wells near the shores of Smith's Pond on February 16, 1901. The specimen last mentioned is the only one known to me which has been found in the Cambridge Region in midwinter, but on December 12, 1890, I shot a bird about a mile to the westward of Rock Meadow, flushing it in an opening surrounded by birches, where the ground was broken into hillocks and carpeted with moss. It is unusual for Owls of the present species to be seen in or near woodland of any kind. I have another specimen, however, that I killed at Lake Umbagog in a dense thicket of young spruces and balsam firs.

Mr. H. W. Henshaw tells me that Short-eared Owls occurred sparingly in the Cambridgeport Marshes thirty or forty years ago. There can be little doubt that they visited the Longfellow Marshes also, although I have no definite evidence that such was actually the case.

95. *Syrnium varium* (Barton).

BARRED OWL.

Rare permanent resident, sometimes common in late autumn.

Coming, no doubt, in migratory flights from further north and appearing at irregular intervals, the Barred Owl is sometimes common in the Cambridge Region for weeks at a time in late autumn, especially during the latter part of November and the first half of December. In November, 1866, I took three specimens¹ in the course of a single week in the Pine Swamp—then a favorite resort for birds of prey. I also used to meet with the species rather frequently in the cedar and pitch pine woods just to the westward of Mount Auburn, as well as occasionally in the more remote and extensive woodlands of Belmont, Arlington and Waltham, where Barred Owls continue to be found at the present day. Most of the birds which visit us in November and December disappear before the first of January. Many of them, no doubt, are killed, but the majority probably pass further south; a few, however, often remain until early spring. They sometimes appear close to houses in densely populated localities, even in the very heart of Cambridge. One spent the greater part of the winter of 1899–1900 in Norton's Woods. Mr. Faxon, who had this bird under close observation from January 31 to February 10, tells me that the pellets found beneath the large white pines where it roosted during the day, were composed almost wholly of the undigested remains of English Sparrows. I cannot learn that the Barred Owl has ever been found breeding in the Cambridge Region, but I have an adult female² which was shot in Belmont on May 2, 1893.

96. *Scotiaptex nebulosa* (Forst.).

GREAT GRAY OWL.

Very rare winter visitor.

The Great Gray Owl appears in eastern Massachusetts only at long and

¹ One bird, no. 275, collection of William Brewster.

² No. 44,914, collection of William Brewster.

irregular intervals and in very limited numbers. The nearest approach to a pronounced flight of which we have definite knowledge was that which took place in 1842-1843, when, according to Dr. Samuel L. Abbot,¹ no less than seven birds were obtained within the limits of our State. Several specimens have been taken near Boston, but only two, I believe, in the region treated in the present Memoir. The first of these was originally reported, by Dr. Samuel Cabot, at a meeting of the Boston Society of Natural History, held on February 3, 1847, as having been "procured lately, by Prof. Agassiz" and "shot . . . in Cambridge."² The other, a male now in my collection, was killed on February 22, 1898, in Payson Park, Belmont. The circumstances attending the capture of the latter bird were noted by me at the time, as follows:—

Mr. R. B. Malone, who lives in the Park, heard Crows making a great outcry there during the whole forenoon. They kept increasing in numbers until, as he thinks, upwards of one hundred were assembled. Their clamor finally became so loud and incessant as to annoy him seriously, and soon after dinner he took a 'Flobert rifle' and went out to disperse them. Near his house is a row of tall Norway spruces, behind this an old apple orchard, and just beyond the orchard a dense growth of Norway spruces, larches and arbor vitæ encircling an open space, in the middle of which are the stables and paddock of the fine old Cushing estate. A circular driveway passes under and among the trees, which average fifty or sixty feet in height. Between the driveway and the paddock, in the middle of the thickest spruces, stands a white pine—a vigorous tree with a full green top but dead lower branches. As Mr. Malone approached the spruces he saw great numbers of Crows perched in or flying just above them. A little later a woman, who had come from a neighboring farmhouse, impelled by curiosity to find what the Crows were about, called to him that she had found a great Owl and asked him to shoot it. On going to the spot he at once saw the bird perched in an erect position about twenty-five feet above the ground on one of the lower branches of the pine and looking "as big as an eagle." It stared at him fixedly, with its yellow eyes wide open, but showed no alarm at his presence although he went almost directly under the branch on which it was sitting. After watching it for a few moments, he fired at it but missed. At his second shot the bird flew across the paddock and alighted on the end of a spruce limb. It proved to be badly wounded and soon fluttered down to the ground, where it stood on the defensive, presenting so menacing an appearance that he did not venture to touch it for several minutes. It died a few hours later, and was taken to Mr. M. Abbott Frazar from whom I afterwards purchased the skin.

¹[S. L. Abbot,] Proceedings of the Boston Society of Natural History, I, 1843, 99.

²[S. Cabot,] Proceedings of the Boston Society of Natural History, II, 1847, 206.

97. *Cryptoglaux tengmalmi richardsoni* (Bonap.).

RICHARDSON'S OWL.

Exceedingly rare winter visitor.

On December 26, 1902, a Richardson's Owl was taken in a birch swamp near Arlington Heights by a boy of about fifteen years of age, named Walter Crosby, who discovered it perched on a branch of a small birch about six feet above the ground. He began throwing stones at it, when it made a succession of short flights, keeping, however, to the swamp and within one hundred yards or less of the spot where it was first seen. At length it was struck by a stone and killed. Although ignorant at the time of the local rarity of his prize, young Crosby decided to have it mounted, and took it that same evening to Mr. William P. Hadley who, on skinning it, found it to be a male "in good condition, although the stomach was almost perfectly empty." I am indebted to Mr. Hadley for the above particulars as well as for the bird itself which he has been kind enough to purchase for me from the Crosby family. It is a beautiful specimen in exceptionally fresh, richly colored plumage.

An Owl killed in Mount Auburn in 1865, and preserved in my collection for a number of years, was identified and recorded¹ by Mr. Maynard in 1870 as a Richardson's Owl. This bird is no longer in existence, but I can vouch for the fact that it was really a Saw-whet, in full and perfectly normal winter plumage. Although not responsible for the original publication of this error, I am certainly blameworthy for having allowed it to stand so long uncorrected.

Richardson's Owl has been taken in Newton (on February 26, 1879²), as well as at Framingham, West Dedham, Malden, Lynn, and a few other localities in eastern Massachusetts. Its visits to our State are rare and infrequent, however, and it is not often seen in northern New England. Perhaps it is less given to southward migrations than are most of the Owls which share its wide boreal range, or it may be one of the least numerous represented among them. The latter view is held by Mr. E. A. Preble who tells me that he has seldom met with it during his extended travels in British North America. According to Major Bendire, however, "it appears to be very common about Great Slave Lake, specimens having been received from all the different Hudson Bay Company

¹ C. J. Maynard, *Naturalist's Guide*, 1870, 133.

² T. M. Brewer, *Proceedings of the Boston Society of Natural History*, XX, 1879, 272. No. 867, collection of E. A. and O. Bangs.

posts located on its shores.”¹ Its most southern known breeding station is the Magdalen Islands, where a nest containing four young and an addled egg was found in June, 1878.²

98. *Cryptoglaux acadica* (Gmel.).

SAW-WHET OWL. SAW-WHET. ACADIAN OWL.

Not uncommon winter resident.

SEASONAL OCCURRENCE.

October 30, 1874, one female taken, East Lexington, W. Brewster.

November 10 — March 1.

March 12, 1891, one seen, Cambridge, F. Bolles.

Saw-whet Owls visit the Cambridge Region nearly if not quite every winter, but in varying numbers. During some years only a few are reported; in others the birds are not uncommon, especially in November and December. They may be looked for with the best chances of success in the wooded parts of Lexington, Arlington, Belmont and Waltham. They have also occurred repeatedly in the Fresh Pond Swamps, and not very infrequently in that rather densely populated portion of Old Cambridge lying between Massachusetts Avenue and Mount Auburn. The birds which frequent woodlands usually spend the day among the dense evergreen foliage of pines or hemlocks, where they would be quite safe from human observation were it not that their presence is often betrayed by noisy and excited mobs of Chickadees, Kinglets and Nuthatches which gather about them to scold and vituperate. Saw-whets are by no means always so retiring, however, for sometimes they may be seen sitting in the full glare of the mid-day sun in leafless trees or bushes along country roadsides, or even in those which border city streets. About noon on February 7, 1898, a brilliantly clear day, I discovered one of these Owls in our garden, perched in a scarlet oak some ten feet above the surface of the snow which, at that time, covered the ground deeply. Several clusters of dry oak leaves still clung to the branch, and in their midst sat the little Owl erect and motionless, quite aware, no doubt, that their

¹ C. Bendire, Smithsonian Contributions to Knowledge, XXVIII, 1892. Life Histories of North American Birds, 348.

² C. B. Cory, Naturalist in the Magdalen Islands, 1878, 54.

russet color closely matched certain of the reddish tints of its own exquisite plumage. But it either overestimated the value of protective coloring or was absurdly trustful, for my assistant, Mr. Gilbert, mounting on a step-ladder, caught the bird in his hand without the slightest difficulty. Mr. M. Abbott Frazar tells me that many of the specimens which he receives for preservation are captured in a similar manner.

Although the Saw-whet Owl is not known to breed in the Cambridge Region, it probably does so occasionally, for young birds in the juvenal (*'albifrons'*) plumage have been taken in June or July in Newton, and also on Deer Island in Boston Harbor,¹ while nests containing eggs or young have been repeatedly found within thirty or forty miles of Boston.

99. *Megascops asio* (Linn.).

SCREECH OWL.

Common permanent resident.

NESTING DATES.

April 15—25.

The Screech Owl is one of the best examples which the Cambridge fauna affords of a permanently resident species, for it is about equally common here at all seasons and there are apparently no reasons for believing that our local birds ever wander more widely than they find it necessary to do in order to secure food and suitable breeding places. It is possible, of course, that their numbers are sometimes added to in winter by a slight influx of more northern-bred individuals, but of this I have seen no good evidence. In our neighborhood Screech Owls nest, as a rule, in apple orchards, preferring those bordering on meadows or woodland and containing old and neglected trees with hollow trunks or branches. I can remember when there were many orchards of this character near Fresh Pond and scattered throughout Watertown, Belmont and Arlington, and when nearly every one of them harbored its pair of breeding Owls. Within the past ten or fifteen years most of the older trees have been cut down or so carefully trimmed and patched that they no longer furnish the conditions which the birds require.

¹R. Deane, Bulletin of the Nuttall Ornithological Club, II, 1877, 84.

In the days of my boyhood Screech Owls occasionally visited the more thickly settled parts of Cambridge, but I do not think that at that time any bred there. Shortly after the English Sparrows became numerous, however, the Owls began to prey on them, and, finding the novel food abundant and to their liking, took up their permanent abode where it could be most easily and certainly obtained at all seasons — that is, in the heart of our city. For upwards of fifteen years past a cavity high in a large elm that stands on Linnæan Street, opposite the Botanic Garden has been regularly occupied as a nesting site by these Owls; they have also reared young during this period in an elm near Mr. C. F. Batchelder's house on Kirkland Street; in June, 1893, a nest containing young was found in the Class Day Elm in the Harvard College Grounds; and in the summer of 1900 a brood of young, still clothed in their natal down, appeared in the horse chestnuts in front of the old Nichols house, also known as the Lee house, on Brattle Street.

Even that densely populated part of Boston known as the Back Bay District is now occasionally invaded by these daring and adaptive little Owls; Dr. Arthur P. Chadbourne tells me that he heard one wailing in the trees on Marlborough Street during the evening of January 31, 1902, and late in December, 1903, my assistant, Mr. R. A. Gilbert, saw another which had just been caught on the doorstep of a house on Commonwealth Avenue.

100. **Bubo virginianus** (Gmel.).

GREAT HORNED OWL. CAT OWL.

Formerly resident in small numbers; now an uncommon autumn or winter visitor.

NESTING DATES.

February 22 — March 1.

Mr. J. Elliot Cabot, in a vivid description in 'Sedge-birds,'¹ of the dawn of an autumn morning at Fresh Pond in the early 30's, evidently refers to the Great Horned Owl in the following passage: "From the pines behind comes the *hoo*, *hoo-hoo* of the owls, like the toot of a distant horn prelude the full blast, and out of the darkness overhead the bark of the Kwa-birds or Night Herons." As the Cabots' shooting stand was in Cambridge Nook, very near where Alewife Brook left the pond, the pines above mentioned may have stood where the

¹J. E. Cabot, Atlantic Monthly, XXIII, 1869, 385.

Glacialis was afterwards dug by the Tudor Ice Company; but they are more likely to have been the same noble old trees which for nearly forty years later shaded some six or eight acres of level, swampy land several hundred yards further to the westward and immediately about Pout Pond. On the occasion of my first visit to this primitive bit of wilderness, so often referred to in the present Memoir under the name of the Pine Swamp, an Owl of the largest size followed me about, circling above and around me but always just out of gun-shot, occasionally alighting for a moment, and repeatedly uttering a short, barking note which I have since learned is a characteristic cry of the Great Horned Owl when its breeding haunts are invaded. There can be little doubt that the bird just mentioned had young, for it was seen on June 3, 1865.

Some time in July or August, 1861, I shot a young Great Horned Owl within two or three hundred yards of our house, in Cambridge. It was perched in a thorny acacia tree on the old Nichols place, near the corner of Appleton and Brattle Streets. Numbers of excited Robins, Bluebirds, Orioles, etc., had gathered about it to scold and vociferate. The specimen is still in my possession; it is in the downy natal plumage, but its wing quills and tail-feathers are fully developed. Although this bird was, no doubt, quite able to fly, it had probably come from no great distance, and perhaps from the Pine Swamp.

I have also the skin of an adult male which I killed on May 13, 1872, in the extensive oak and pine woods between Belmont and Waverley, now included in the grounds of the McLean Asylum.

In 1874, and again in 1875, Mr. M. Abbott Frazar found a pair of Great Horned Owls nesting in a pine swamp on the borders of Lincoln about half a mile beyond what is now the Hobbs Brook Reservoir.

The instances just mentioned are all that I can give of the local occurrence of the Great Horned Owl in the breeding season. In late autumn and winter I used to meet with a few birds nearly every year in the more remote parts of Arlington, Belmont and Waltham. On December 11, 1875, I started one in pine woods lying just to the westward of Mount Auburn.

101. *Bubo virginianus subarcticus* (Hoy).

ARCTIC HORNED OWL.

Casual winter visitor.

Mr. Albert P. Morse, writing of the Great Horned Owl in his 'Birds of Wellesley and Vicinity,' says: "Dr. Faxon reports a very light-colored speci-

men, probably belonging to one of the pale western races, in Mus. Comp. Zool. collection, taken at Waltham, Nov. 30, 1867, by C. J. Maynard." ¹ This bird (a mounted specimen numbered 8336 in the Museum catalogue) was afterwards referred by Howe and Allen to the Western Horned Owl, *Bubo virginianus subarcticus* (Hoy), of which they considered it "a typical female specimen." ²

On comparing it with a large series of skins which represent all the North American subspecies of *Bubo* (excepting one peculiar to Alaska) which are recognized by the latest authority on the genus, Mr. Oberholser, I find that the Waltham specimen is distinctly unlike any of the Great Horned Owls which are known to breed in the United States, and that it must be referred to the form which for many years has been generally known as *arcticus*. Indeed it is practically indistinguishable from several specimens of that race which I have received from Alberta and which apparently represent what Mr. Oberholser considers — as I think rightly — a dark phase of '*arcticus*.' No doubt the Waltham bird wandered to Massachusetts from some locality in the interior of British North America, and not from the western United States, as Howe and Allen seem to have thought. Owing to a singular combination of circumstances, however, the Latin (but not the English) name, under which they recorded it, is that which it should continue to bear.

In a paper published ³ in 1896 Mr. Stone brought forward evidence which confirms the opinion held by several earlier writers (including Cassin, Baird, Brewer, and Ridgway, and Coues) to the effect that the name *subarcticus* Hoy must be regarded as a pure synonym of *arcticus* Swainson. In the same connection he proposed to divide the light-colored Horned Owls of the western United States, to one or more of which the name *subarcticus* had been repeatedly and at times very generally applied, into two forms. For "the small southern California subspecies" he used the name *pacificus* originally suggested by Cassin. "For the large form from the Great Plains" he proposed the new name *occidentalis*. A year later he decided that the "name '*occidentalis*' must be relegated to synonymy" for the reason that it had been based on a specimen which "unfortunately proves to be intermediate between *B. virginianus* and *arcticus*." ⁴ To replace the name *occidentalis* he then proposed "for the Horned Owl of the interior United States (the '*subarcticus*' of authors, nec. Hoy) the name *pallens*, designating as the type, No. 152219, Coll. U. S. Nat. Mus. ♂ Watson Ranch,

¹ A. P. Morse, Birds of Wellesley and Vicinity, 1897, 23.

² R. H. Howe, Jr., and G. M. Allen, Birds of Massachusetts, 1901, 68.

³ W. Stone, Auk, XIII, 1896, 153-156.

⁴ W. Stone, American Naturalist, XXXI, 1897, 236.

18 mi. S. W. of San Antonio, Texas.”¹ Acting upon these proposed changes the A. O. U. Committee, in 1897, accepted the name *pacificus* and rejected the names *subarcticus* and *occidentalis*. All this happened before Howe and Allen’s ‘Birds of Massachusetts’ was written; about the time this paper was published the Committee accepted the name *pallescens*.

Since then Dr. Charles W. Richmond has pointed out that the name *Bubo arcticus* was used by Forster for the Snowy Owl in “1817 (Synoptical Catalogue of British Birds, 47)” whereas “Swainson’s name *Strix (Bubo) arctica* (Fauna Boreali-Americana, II, 86, Feb., 1832)” was not applied to the Arctic Horned Owl until 1832. Dr. Richmond therefore proposed to substitute Hoy’s name *subarcticus* for *arcticus*.² Still more recently Mr. Harry C. Oberholser in his admirable ‘Revision of the American Great Horned Owls’ resuscitates the name *occidentalis* Stone, which he applies to a rather large and light-colored race formerly included among the birds which were called *subarcticus*, but which was not, of course, the *subarcticus* of Hoy. This race is found, he says, in the “Western United States, from Minnesota and Kansas to Nevada, southeastern Oregon, Utah, and Montana; south in winter to Iowa.”³ He agrees with Dr. Richmond that the name *arcticus* cannot be used for the Arctic Horned Owl, but he would replace it by the name *wapacuthu* (Gmelin), which is earlier than *subarcticus* Hoy.⁴ The name *wapacuthu*, however, was based by Gmelin on a description taken by Pennant from a manuscript account by Hutchins of an Owl which, it is distinctly stated, is *without ears*. This fact precludes the use of the name for the Arctic Horned Owl, at least by those who follow Canons XLIII and XLV of the A. O. U. Code. There are, moreover, other and perfectly good reasons for doubting that the bird mentioned by Hutchins was a Horned Owl of any kind. Thus Samuel Hearne in his ‘Journey from Prince of Wales’s Fort in Hudson’s Bay, to the Northern Ocean,’ published in London in 1795, says, on page 402, that the Indians call the Snowy Owl “Wap-a-keethow.” According to Richardson, “the Indian word *Wapacuthu* means ‘White Owl,’ and is applied also to the *Strix nyctea*, although the common term for the latter is *Wapo-ohoo*.”⁵

In view of the considerations just mentioned it will be necessary, I think, to take the name *subarcticus* Hoy for the whitish boreal form which has been hitherto so generally called *arcticus* and of which the Waltham specimen, above mentioned, is, in my opinion, a dark-colored representative.

¹ W. Stone, *American Naturalist*, XXXI, 1897, 236.

² C. W. Richmond, *Proceedings of the Biological Society of Washington*, XV, 1902, 86.

³ H. C. Oberholser, *Proceedings of the United States National Museum*, XXVII, 1904, 191.

⁴ *Ibid.*, 191-192.

⁵ J. Richardson, Swainson and Richardson, *Fauna Boreali-Americana*, Vol. II. The Birds. 1831, 86, foot-note.

102. *Nyctea nyctea* (Linn.).

SNOWY OWL. ARCTIC OWL.

Rare and irregular winter visitor.

SEASONAL OCCURRENCE.

November 17, 1871, a female taken, Longfellow Marshes, R. Deane and W. Brewster.
 January 1, 1894, a bird seen, Cambridge, A. S. Gilman.

Snowy Owls visit eastern Massachusetts at irregular intervals and in varying numbers. During some seasons, as in the autumn and winter of 1876-1877, and that of 1905-1906, the beautiful birds are taken or seen by scores or even hundreds, but ordinarily they are far from numerous. They occur oftenest in November or December and on or very near the seacoast. Here they haunt sand dunes, salt marshes and other wide expanses of open ground. During their less frequent visits to inland localities they sometimes appear in densely populated parts of towns and cities. As they move about freely by day they naturally attract general attention, and as they are seldom very shy many of them are killed by local gunners not long after their first appearance. Most of the survivors go further south before the close of December, but some of them remain through the entire winter. The return flight in spring is never very noticeable, probably for the reason that comparatively few birds are left to undertake it.

My notes furnish the following records of the occurrence of the Snowy Owl in the region covered by the present Memoir:—

November 17, 1871. Mr. Ruthven Deane and I found a female Snowy Owl in the Longfellow Marshes, Cambridge, sitting on the ground, surrounded by a mob of noisy and excited Crows. Approaching under cover of a haystack, Mr. Deane shot the bird which is still in his collection.

December 3, 1890. At sunset this evening Mr. Alfred L. Danielson saw a Snowy Owl flying past the Cambridge Gas-House, following up the course of Charles River.

1892. According to report a bird was shot some time in the late autumn or early winter of this year in Brattle Square, Cambridge. I think the specimen was preserved, but I do not know what eventually became of it.

December 31, 1893. January 1, 1894. On the afternoon of December 31 a Snowy Owl was seen perched in the top of an elm in the rear of Mr. Edwin H. Abbot's house on Follen Street, Cambridge, and later that same day it visited Berkeley Street. The following morning it appeared in Linnæan Street directly opposite the Botanic Garden. It naturally attracted much attention; indeed it was followed about on both occasions by a mob of men and boys. Finally a man with a gun appeared and shot at the bird which flew off westward over the Observatory grounds.

103. *Surnia ulula caparoch* (Müll.).

AMERICAN HAWK OWL. HAWK OWL.

Very rare visitor from the north in late autumn.

I have an American Hawk Owl which Mr. Wilmot W. Brown shot in West Somerville, not far from the stone powder-magazine, on November 16, 1889. No other record for the Cambridge Region is at present known to me. There is no definite evidence that American Hawk Owls ever breed in New England, but they may do so occasionally, for the Messrs. Edward A. and Outram Bangs have a young bird which they shot on August 10, 1878, at Point Lepreaux, New Brunswick, only about twenty-five miles from the eastern border of Maine. As this specimen retains some of its natal down, it probably was reared not far from the place where it was killed. Most of the Hawk Owls which are noted in New England come, however, from regions much further to the northward. They sometimes appear rather numerous in late autumn and winter in northern Maine and New Hampshire; but even there they are seldom common, and often apparently wholly absent. Their visits to eastern Massachusetts are still more irregular and infrequent.

104. *Coccyzus americanus* (Linn.).

YELLOW-BILLED CUCKOO. YELLOW-BILL.

Common summer resident.

SEASONAL OCCURRENCE.

May 4, 1896, one seen, Arlington, W. Faxon.

May 12—September 15.

September 26, 1870, one taken, Fresh Pond Swamps, W. Brewster.

NESTING DATES.

May 25—June 8.

Since my earliest recollection the Yellow-billed Cuckoo has been a common summer resident of the Cambridge Region, but its numbers vary considerably in

different years. During some seasons it is quite as numerous represented as the Black-bill, in others decidedly less so. It is a familiar bird, given to frequenting cultivated grounds near houses. We continue to see or hear it in May and June throughout such densely populated parts of Cambridge as those lying between Harvard Square and Mount Auburn, although it is now less often met with here than in the more thinly settled country further inland. Its favorite summer haunts are apple orchards, brush-grown lanes and roadsides, causeways shaded by willows, and dense thickets near water. It used to breed rather commonly in the Maple Swamp,—where I have also found it lingering well into the autumn on one or two occasions,—and within recent years it has repeatedly nested in the pear trees in our garden.

105. *Coccyzus erythrophthalmus* (Wils.).

BLACK-BILLED CUCKOO. BLACK-BILL.

Common summer resident.

SEASONAL OCCURRENCE.

May 6, 1905, one heard, Cambridge, W. Brewster.

May 12—September 20.

October 16, 1890, one seen, Fresh Pond Swamps, W. Faxon.

NESTING DATES.

May 20—June 5.

Much that I have just said of the Yellow-billed Cuckoo will apply equally well to the Black-bill. We hear the voices of both every summer in our city gardens, and elsewhere in the Cambridge Region the birds occur together or in close proximity in many localities. The Black-billed species, however, is, on the whole, a more retiring bird than the other—more given to haunting extensive tracts of dry upland woods and to nesting in wild apple trees, Virginia junipers and barberry bushes in remote rocky pastures such as those which lie scattered along the crest and sides of the high ridge between Arlington and Waverley.

In late summer and early autumn I have found the Black-billed Cuckoo oftenest in the Maple Swamp, where it feeds freely on the berries of the deadly nightshade.

106. *Ceryle alcyon* (Linn.).

BELTED KINGFISHER. KINGFISHER.

Permanent resident; rare and perhaps not always present in winter, not uncommon in spring and summer, most numerous in autumn.

SEASONAL OCCURRENCE.

March 26, 1898, one seen, Arlington, W. Faxon.

April 10—November 1. (Winter.)

November 15, 1890, one seen, Arlington, W. Faxon.

NESTING DATES.

May 15—25.

The Kingfisher continues to breed sparingly in the region covered by the present Memoir. It has never been numerously represented here in summer since I can remember, and I am inclined to believe that nests are found almost as often now as they were twenty or thirty years ago, even in the city of Cambridge. As lately as 1899 there was one in a bank on the shores of Fresh Pond. When the alewives had access to this pond their fry swarmed in its waters every autumn, attracting great numbers of Kingfishers during September and the early part of October. At this season the birds are still common enough (although much less so than formerly) about the shores of most of our ponds, as well as along Charles River. They also visit small isolated pools and the deeper reaches of our larger brooks. I remember seeing a Kingfisher many years ago at an artificial pond (long since filled) in the grounds of the Chauncey Smith estate (then owned by Dr. Joseph E. Worcester) on Brattle Street, Cambridge, and on May 24, 1900, another flew low over our lawn, rattling loudly. A few birds continue to frequent the ornamental ponds in Mount Auburn.

We used to think that all our Kingfishers went further south to pass the winter, for during the earlier years of my field experience none were ever noted between the close of November and the latter part of March. Since 1890, however, one or two birds have been observed almost every season in December and January, usually along the tidal reaches of Charles River or at the outlets of the Mystic Ponds, where there are nearly always stretches of open water. These, however, can furnish but indifferent hunting grounds for a hungry Kingfisher when the temperature falls to zero, for at such times most of the smaller fishes remain well below the surface.

107. *Dryobates villosus* (Linn.).

HAIRY WOODPECKER.

Uncommon visitor in autumn and winter ; one summer record.

SEASONAL OCCURRENCE.

- October 5, 1887, one im. female seen, near Cambridge, W. Brewster.
 October 10—April 15. (Summer?)
 May 2, 1881, one seen, Cambridge, C. F. Batchelder.
 August 25, 1897, one seen, Arlington, W. Faxon.

NESTING DATES.

April 22—May 5.

The Hairy Woodpecker may be found in the Cambridge Region from October to April, but it occurs oftenest during October and November. Although its numbers vary from year to year, it is never really common, three or four birds being as many as any one observer, however acute and diligent, is likely to meet with in a single season. Most of them occur in the wilder, more heavily wooded portions of Arlington, Belmont and Waltham, for the Hairy Woodpecker is, by nature, a retiring, forest-loving species. Nevertheless it sometimes appears in densely populated localities and even in the very heart of our cities and larger towns. I have seen it in the elms on Boston Common (on November 14, 1903) and in Cambridge it has been observed, during the past ten or fifteen years, with increasing regularity and frequency, usually in or near the grounds of Harvard College or in the large shade trees along Brattle Street. In 1905 a pair frequented our garden from early in January to the latter part of April, feeding greedily on suet, often in company with Chickadees and Downy Woodpeckers.

I am not aware that the Hairy Woodpecker has ever been found breeding in the Cambridge Region, but Mr. Walter Faxon tells me that he has noted it in Arlington in late summer—on August 25, 1897. It still nests regularly—if but very sparingly—in Lincoln and Concord, whence, no doubt, come some of the birds which visit Cambridge in autumn and winter. Others, perhaps, are derived from Maine and New Hampshire, for the Hairy Woodpecker, although certainly not habitually migratory,—like the Sapsucker and Flicker, for example,—is, nevertheless, somewhat given to wandering southward in autumn, at least from the forests of northern New England.

108. *Dryobates pubescens medianus* (Swains.).

DOWNY WOODPECKER.

Common permanent resident.

NESTING DATES.

May 22—June 3.

Although the Downy and Hairy Woodpeckers are so similar in general appearance as to be distinguishable in life only by size (or by voice), they differ widely in character and tastes. The Hairy is a restless, suspicious creature, prone to take alarm if closely approached, and apparently never quite happy or at ease when far from its favorite woodlands. The Downy, on the other hand, is one of the most contented, trustful and familiar of birds. Like a true philosopher it accepts conditions as it finds them, and, when they change, quickly adapts itself to the new order of things. By virtue of these admirable traits it has maintained itself in practically undiminished numbers throughout the Cambridge Region, despite the cutting down of woods, the rapid increase of houses, and the multiplication and dispersion of the English Sparrows. From November to April it still appears regularly and, for a Woodpecker, really numerous, in many of the older settled parts of Cambridge, and several birds are accustomed to visit our garden almost daily to feed on the suet which we put out for them and for the Chickadees.

But while the Downy Woodpeckers make themselves quite at home in our city during the winter months, they invariably desert it at the approach of summer. Some perhaps go further north to breed, for the species is probably migratory to a certain extent; others retire to the wilder parts of Arlington, Belmont, Lexington and Waltham, where I have often found their nests in decayed trunks or branches of apple trees in old, neglected orchards, and in poplar, birch and maple stubs in the woods. It is unusual for them to breed in any locality much frequented by man and I have never known a nest to be found within the corporate limits of Cambridge, even in the earlier days of my field experience when so much of the region lying in the direction of Fresh Pond and Mount Auburn was essentially a farming country, well supplied with old apple orchards and not without scattered pieces of woods. From these facts we may infer that the Downy's trust in man is not altogether so profound as might at first appear.

109. *Picoides arcticus* (Swains.).

ARCTIC THREE-TOED WOODPECKER. BLACK-BACKED THREE-TOED WOODPECKER.

Of rare occurrence ; only one record.

The Arctic Three-toed Woodpecker visits eastern Massachusetts rather frequently — if somewhat irregularly and sparingly — in autumn and winter, coming, no doubt, from the spruce forests of northern New England which it inhabits at all seasons. It has been found repeatedly at places not far distant from Cambridge, such as Beverly, Lynn, Woburn, Malden, Melrose, Medford, Dorchester, Hyde Park, and Milton, but the only instance known to me of its occurrence within the region covered by the present Memoir is that of a bird which Mr. Walter Faxon saw in Arlington on April 27, 1905. He writes me that it was met with “near Turkey Hill . . . in a growth of big white pines killed by fire a year or two ago,” adding “It was a fine male, with the yellow crown, and I had him at close range to my heart’s content. He was getting grubs from the fire-killed pine in the characteristic way.” The date on which this bird was noted is exceptionally late, of course.

Mr. F. W. Bridge has reported¹ that “on October 16, 1883,” he “shot a female specimen of the Black-backed three-toed Woodpecker (*Picoides arcticus*) at West Medford, Mass.” He has recently informed me by letter, however, that the bird was killed “in Medford (not West Medford) about one half mile west of Pine Hill and close to the western side of what is now the Medford Golf Links.” This locality is about two and one half miles east of the Mystic Ponds, and hence outside the limits of the Cambridge Region.

Most of the records of occurrence of the present species in eastern Massachusetts relate to single birds, but in the winter of 1860–1861 a piece of heavy pine timber in Lynn, which had been burned over, the preceding summer, attracted Arctic Three-toed Woodpeckers in such numbers that Mr. George O. Welch “often saw as many as six or eight during a single visit to these woods.”² It is exceptional, of course, to meet with so many together in any part of New England, for Arctic Three-toed Woodpeckers are not, as a rule, gregarious ; I have known them, however, to occur even more abundantly in fire-devastated spruce forests in northern Maine, to which they usually resort only during the year after that when the trees are killed.

¹ F. W. Bridge, Quarterly Journal of the Boston Zoölogical Society, III, 1884, 17.

² W. Brewster, Bulletin of the Nuttall Ornithological Club, VIII, 1883, 122.

110. *Sphyrapicus varius* (Linn.).

YELLOW-BELLIED SAPSUCKER. SAPSUCKER. YELLOW-BELLIED WOODPECKER.

Transient visitor, not uncommon in spring and autumn; occasionally seen in winter.

SEASONAL OCCURRENCE.

April 11, 1899, one seen, Arlington, W. Faxon.

April 24 — May 1.

May 5, 1877, one female¹ taken, Cambridge, C. F. Batchelder.

September 10, 1899, one seen, Cambridge, W. Brewster.

September 15 — November 1. (Winter.)

On January 1, 1862, my friend Mr. Daniel C. French called at our house to give me my first lesson in taxidermy, an art known in those days to but few persons save the professional 'bird stuffers.' I was naturally eager to take advantage of this opportunity, but it was first necessary to procure a bird not too small nor delicate for inexperienced fingers. By chance a suitable subject was speedily provided, for just as we were about to start, with our guns, for some distant woods, a Sapsucker alighted on the trunk of a butternut tree close to the house and was at once shot. If I remember rightly it was a young bird, but the specimen was destroyed by moths some ten or fifteen years later. It was the only Sapsucker that I have ever seen in Massachusetts in winter, but one was killed in the Botanic Garden, Cambridge, on December 1, 1883, by Mr. George N. Lamb, and another was noted in Waverley on December 24, 1885, by Dr. Arthur P. Chadbourne, while Mr. Frederic H. Kennard has reported² finding one in Brookline on February 6, 1895.

Although the Sapsucker is accustomed to visit the Cambridge Region very regularly at its seasons of migration, it is seldom or never seen here in any considerable numbers. It occurs oftenest in April and October, and is most likely to be met with in dense mixed woods, especially those which contain pitch pines. It also appears familiarly in apple orchards near farmhouses and about cultivated grounds in the suburbs of our cities and larger towns, where it does some damage to such trees as the Austrian pine and mountain ash by drilling holes through their bark to obtain the sap. While thus engaged it sometimes lingers for days in succession in our garden, and I have notes of its recent occurrence in other equally densely populated parts of Cambridge.

¹No. 246, collection of C. F. Batchelder.²F. H. Kennard, *Auk*, XII, 1895, 301-302.

[*Sphyrapicus varius nuchalis* Baird. RED-NAPE SAPSUCKER. In the 'History of North American Birds,' Dr. Brewer, writing of the Red-naped Sapsucker, reported that "two specimens of this race have been taken in New England,— one in New Hampshire by Mr. William Brewster, the other in Cambridge by Mr. Henshaw."¹ The birds to which this statement relates were referred to *nuchalis* for a time because they possessed the red nuchal crescent which was then believed to be peculiar to that form. The crescent, however, was much narrower and less well defined than it usually is in typical examples of Red-naped Sapsuckers. As it is now definitely known that eastern specimens of the Yellow-bellied Sapsucker sometimes have this marking, there are no longer any grounds for believing that the true Red-naped Sapsucker has ever occurred in New England.]

III. *Melanerpes erythrocephalus* (Linn.).

RED-HEADED WOODPECKER.

Of irregular occurrence at all seasons, sometimes in considerable numbers.

NESTING DATE.

June 17, 1882, nest² and at least two eggs, birds seen at hole, East Watertown, C. R. Lamb.

The case of the Red-headed Woodpecker is peculiar. Ordinarily the beautiful bird is of rare occurrence in the Cambridge Region, while sometimes for years in succession it is not reported by any of our local observers; then will come a season when it is common or even abundant. It visits us oftenest during migration, and most numerously in October and November. Whenever there is a well-marked autumnal flight, some of the birds which compose it usually linger into or even through the following winter, and a very few occasionally remain to breed the next summer. The greatest influx that has taken place within my personal recollection occurred in the autumn of 1881 when, for three or four weeks, Red-headed Woodpeckers literally swarmed about Cambridge and Boston. They were not generally distributed, but seemed to congregate in certain localities and to prefer small, open groves of old, deciduous trees to more extensive and varied woods. Within the Cambridge Region they were seen in the greatest numbers among the oaks and beeches about the shores of Fresh Pond; in the mixed oak and chestnut woods lying to the westward of

¹ Baird, Brewer, and Ridgway, History of North American Birds, II, 1874, 543.

² No. 3726, collection of William Brewster.

Mount Auburn; and in a grove of large chestnuts not far from the village of Waverley. They began to appear late in September, and were most abundant during October when very many were killed by our local collectors. Most of the survivors departed early in November, but a few were noted at intervals during the succeeding winter, and on June 17, 1882, Mr. Charles R. Lamb found a pair breeding near the Watertown Arsenal in some oak woods which have since given place to a dense settlement of houses. The nest of this pair is now in my collection. According to Mr. Lamb's notes "it was about forty feet above the ground, in an entirely rotten tree, and contained two or more perfectly fresh eggs which were broken, however, in the attempt to get the nest down." During this season another nest was found in the same neighborhood by Mr. M. Abbott Frazar. He writes me that, as nearly as he can remember, it was in a large hickory tree on the Adams estate, near School Street, in such a position that he could not get at it. He thinks that the birds reoccupied it during the following year.

In 1883 a pair of Red-headed Woodpeckers attempted to breed in Cambridge in a large dead elm which stood at the corner of Concord Avenue and Buckingham Street within the grounds of St. Peter's (Roman Catholic) Church. Here, as well as at several other places in the immediate neighborhood, the birds were repeatedly noted by Mr. H. M. Spelman and Dr. Arthur P. Chadbourne. They drilled a hole — which I saw later that summer — in the south side of the elm at a height of thirty-five or forty feet. Shortly after it was completed, and probably before any eggs had been laid, — although as the nest was not opened this cannot be positively asserted, — both birds suddenly disappeared. It was reported at the time that they had so seriously disturbed the meditations of Father O'Brien, the resident priest, by their incessant drumming on a resonant branch of the old tree, that he had had them shot. Dr. Chadbourne tells me, however, that he has reason to believe that one of them was killed or, at least, mortally wounded, by a certain eager young Cambridge collector of that period.

The earliest definite record of the breeding of the Red-headed Woodpecker in the immediate neighborhood of Boston appears to be that by Mr. Purdie¹ of a nest containing five eggs which was found by Mr. H. K. Job in June, 1878, in a hole of an apple tree in Brookline. According to a statement made to me by the late Mr. Gordon Plummer, several additional nests of this Woodpecker were discovered in Brookline in the summer of 1882. Another and still more recent instance of breeding in a locality equally near the confines of the Cambridge Region, is that originally reported by Mr. Torrey,² of a pair which suc-

¹ H. A. Purdie, *Bulletin of the Nuttall Ornithological Club*, VII, 1882, 57.

² B. Torrey, *Auk*, XVIII, 1901, 394.

cessfully reared their brood in Newton in the summer of 1901. Mr. Walter Deane and I visited their nest on June 27 and saw both birds enter it repeatedly, bearing, in the tips of their bills, small, dark objects which looked like beetles. Whenever one of the parents came to the nest the young invariably set up a chorus of shrill, eager cries, but they did not once show themselves at the entrance hole which was about twenty feet above the ground in a small red maple. This tree, or rather stub, for it was so completely stripped of bark and branches that it closely resembled a telegraph pole, stood in an open field on the borders of a newly made street, but at no great distance from a knoll wooded with oaks, maples and chestnuts, where the Woodpeckers frequently alighted just before and after visiting the nest.

Besides notes relating to the great flight of 1881 — and its aftermath — my record-books mention the following instances of the occurrence of the Red-headed Woodpecker in the Cambridge Region:—

1866, May 20. I saw a beautiful adult bird among some oaks on the Flag estate near the Trapelo road in Waltham.

1872, March 26. I examined a mature specimen which had been killed that morning by a Mr. Lee in the oak and beech woods on the Tudor place at Fresh Pond.

1876. At least nine different birds were reported to me as shot during October and November in Watertown and Newton.

1878. Several Red-headed Woodpeckers were taken in Belmont and Watertown. Mr. C. F. Batchelder has one that was killed in the former town on October 5 of this year by a boy who saw other birds of the same species at the same time.

1883. A pair attempted to breed in Cambridge. [This has been referred to above.]

1893, May. In early May Mr. John Cullen found a flock of six birds in Watertown and secured two of them.

1896, May 16. A Red-headed Woodpecker was seen near Mystic Pond by Mr. Walter Faxon.

1898, September 21. One was met with in Lexington by Mr. Walter Faxon.

1900, December 2. Mr. Walter Faxon noted a Red-headed Woodpecker near Mystic Pond, Arlington.

1900. Two birds were observed at frequent intervals between October 31 and December 16 in a cemetery near the Lower Mystic Pond, Arlington, by Mr. Richard S. Eustis and Mr. A. Vincent Kidder.

1901. On April 1 Miss Blanche Kendall saw an immature Woodpecker of this species among the fine old oaks and hickories at Payson Park, Belmont. About four weeks later (on the 27th) she found two fully mature birds in the same place. She was assured by one of her friends that several Red-headed Woodpeckers had passed the preceding winter in this grove.

1901, May 21. Mr. George C. Deane met with two adult birds in the oak and beech woods at the southwestern extremity of Fresh Pond.

112. *Colaptes auratus luteus* Bangs.

NORTHERN FLICKER. FLICKER. GOLDEN-WINGED WOODPECKER. YELLOW-HAMMER.

Permanent resident, common at all seasons but least so in winter.

NESTING DATES.

May 10—25.

Flickers winter with us regularly and so commonly that as many as five or six may be seen in the suburbs of Cambridge, or in the farming country a little further to the westward, during a morning walk in December, January or February. They are still more numerous—and very much more conspicuous—at their seasons of migration, especially in late March and early April when the birds which have passed the winter further south herald their return by loud and persistent ‘shouting.’ This sound, one of the most characteristic and welcome of all early spring voices, is heard not less frequently and generally throughout the Cambridge Region today than it was thirty or forty years ago; for the Flicker, although by nature wary and suspicious, is too intelligent and adaptable, and above all too *persistent*, to easily relinquish haunts to which it has become attached, simply because their character has changed. No doubt it has learned by observation that thickly settled localities do not harbor many of its natural enemies; that man is often least to be feared where he is most numerously represented; and that wherever native trees and shrubs are removed they are usually replaced by cultivated ones which produce equally abundant and attractive fruit. When the Parkman’s apple tree in our garden bears heavily, Flickers visit it almost daily through the winter to feast on its tiny apples—scarce larger than blueberries. At this season they also eat the fruit of our hackberry trees, and in summer they never fail to appear when the cherries and mulberries ripen. They are especially fond of rum cherries, of which we have always an abundance for them, and for the Robins, in September. The Flickers have repeatedly nested in this garden, even during recent years. In 1899 a pair took possession of an imitation stub which I made and put up for them. It was simply a long, narrow box covered with bark and having an entrance hole of suitable size bored in one side near the upper end. Eight eggs were laid, but unfortunately none of them hatched although the birds brooded them faithfully for nearly *six weeks*. The box has since sheltered gray squirrels, House Sparrows and, on one occasion, a Screech Owl, but the Flickers have never returned to it.

113. *Antrostomus vociferus* (Wils.).

WHIP-POOR-WILL.

Formerly a not uncommon summer resident; now found chiefly and perhaps only during migration.

SEASONAL OCCURRENCE.

April 25, 1891, one male heard (Concord), W. Brewster.

April 30—September 20.

September 25, 1895, one seen, Arlington, W. Faxon.

NESTING DATES.

May 26—June 5.

Lowell, writing in 1868, says:¹ "I remember when the whip-poor-will could be heard in sweet Auburn." Perhaps it also nested there before the trees were thinned and the undergrowth was cut away to prepare the place for a cemetery. During the earlier years of my own field experience Whip-poor-wills were occasionally started in early May in the dense evergreen woods just to the westward of Mount Auburn, but in summer they were found only in the wilder parts of Arlington, Belmont, Waltham, and Lexington, where they were generally, if somewhat sparingly, distributed. The wooded hills and ridges bordering Rock Meadow on the south and west, and those lying to the north of the Lyman estate in Waltham, were then among the favorite haunts of the Whip-poor-will. In the former locality I heard two males singing at once on the evening of June 2, 1874. Later that same season I started a female whose behavior afforded convincing evidence that she had either eggs or young near at hand. She was among dense oak scrub on a knoll not far from the willow-shaded causeway road. Mr. Ralph Hoffmann assures me that Whip-poor-wills have long since ceased to frequent Rock Meadow in summer, and he even doubts if they now breed anywhere within the limits of the Cambridge Region. My most recent summer record is furnished by Mr. Walter Faxon who tells me that he heard a bird in East Lexington on June 12, 1889.

The Whip-poor-will occasionally appears in densely populated parts of Cambridge during migration. On the evening of April 30, 1871, I heard a male in full song in the grounds of the Gardiner G. Hubbard estate (now Hubbard Park),

¹ J. R. Lowell, My Garden Acquaintance, Atlantic Almanac for 1869, 1868, 37.

and on May 22, 1900, I found a female in our garden. The latter bird spent the entire day on one of the larger branches of an old apple tree where it was surrounded by a mob of noisy and excited Robins who apparently mistook it for an Owl.

114. *Chordeiles virginianus* (Gmel.).

NIGHTHAWK.

Common transient visitor during migrations and rare summer resident, at least formerly.

SEASONAL OCCURRENCE.

April 23, 1895, one seen, Cambridge Region, W. Faxon.

May 15—September 25.

October 5, 1868, one seen, Fresh Pond, W. Brewster.

NESTING DATES.

June 5—15.

Nighthawks continue to visit the Cambridge Region in undiminished numbers at their times of migration.¹ About the middle of May or a little later they may be found singly, by day, roosting on the ground in rocky pastures, on the branches of large pines or oaks in the woods, and of apple trees in the orchards, sometimes near houses and occasionally even in our city gardens; at evening, when twilight is falling and when the warm, moist air is laden with the fragrance of blossoming fruit trees, we often see the birds passing overhead on their way northward. During the return migration, which takes place in the latter part of August or early in September, they are still more numerous or at least conspicuous, appearing about sunset, evening after evening, in straggling companies containing from six or eight to fifteen or twenty birds each, and attracting general attention by their graceful yet erratic manner of flight. The members of these flocks, although scattered more or less widely and apparently absorbed in feeding, move onward steadily, if rather slowly, in the same general direction, ordinarily towards the south or southwest. At first they fly at rather high altitudes, but, as the daylight wanes, they descend to just above the tops of the trees or houses, and finally, when the landscape has become nearly

¹ They have been comparatively scarce during the past two years owing, it is thought, to heavy rains which occurred in the summer of 1903 and which are known to have caused widespread destruction among the Swallows and other birds or similar feeding habits.

shrouded in gloom, they skim close to the earth over fields and meadows and along country roads and lanes.

Within my personal recollection the Nighthawk has never bred numerously or generally in the Cambridge Region and I know of but two places where it has been found recently in summer, *viz.*, at Rock Meadow, Belmont, and near Great Meadow, East Lexington. Of late years, however, it has established the habit of nesting in small numbers on the flat, gravelled roofs of buildings in the Back Bay District of Boston, and birds from this locality sometimes extend their wanderings in search of food to Cambridge, where I occasionally see them at evening flying over our garden.

115. *Chætura pelagica* (Linn.).

CHIMNEY SWIFT. CHIMNEY SWALLOW.

Abundant summer resident.

SEASONAL OCCURRENCE.

April 18, 1896, seen, Cambridge Region, W. Faxon.

April 25—September 20.

September 23, 1898, fifteen seen, East Lexington, W. Faxon.

NESTING DATES.

June 10—30.

One of the pleasantest recollections of my youth is that of Chimney Swifts careering in swarms, with joyous, twittering cries, over and around our house. Up to 1875 or a little later they continued to breed abundantly in our immediate neighborhood, and very commonly in many other parts of Cambridge. Although they have not yet deserted this city, we no longer see them here in any numbers, at least in early summer. The change has progressed gradually, but very steadily. In my opinion it has been due not so much to the spread and increase of the human population, as to the removal or alteration of so many of the older houses, and the accompanying substitution of narrow, smoothly lined chimney flues for those of more ample and primitive type, with inner surfaces sufficiently rough or irregular to furnish suitable points of attachment for the curious nests of the Chimney Swifts. In the farming country to the westward of Cambridge, as well as about the village centers of Arlington, Belmont and Watertown, where chimneys of ancient pattern

still abound, the Swifts continue to reappear every season in nearly if not quite their former numbers.¹ During rainy or lowering weather they congregate over our ponds and meadows to feed in company with the Swallows. Many years ago the boys living near Fresh Pond were accustomed to indulge in a curious practice which I have often witnessed. Arming themselves with long, thickly branched stems of bushes, from which the leaves had been stripped, they would form in line along the crest of a ridge, and strike at the Swallows and Swifts skimming low over the turf on their way to or from the pond. A few Swifts frequently fell victims to this wanton sport, but the more alert and observing Swallows invariably dodged the switches and ran the gauntlet in safety.

In view of the fact that Chimney Swifts breed abundantly throughout northern New England, one would expect to see large flights of them passing and repassing over eastern Massachusetts; but my experience has been that unmistakable migratory movements of this kind are seldom noted here, although the birds are usually more numerous in early May and again in late August than at any time during the intervening period.

116. *Trochilus colubris* Linn.

RUBY-THROATED HUMMINGBIRD. HUMMINGBIRD. HUMMER. RUBY-THROAT.

Very common transient visitor during migration and uncommon summer resident.

SEASONAL OCCURRENCE.

May 1, 1891, one male seen, Lexington, W. Faxon.

May 10 — September 20.

October 2, 1882, one seen, Cambridge, W. Brewster.

NESTING DATES.

May 24 — June 5.

Hummingbirds are often common in our neighborhood for a week or two after their arrival from the south in early May, when they frequent places where the Japan quince and the cultivated cherry are in bloom. Before the end of the month most of them pass still further north, only a very few remaining to breed.

¹ This passage, written several years ago, must now be modified, for the Swifts, like the Night-hawks and Swallows, were seriously reduced in numbers, throughout eastern Massachusetts, during the cold, rainy weather of June, 1903, and the losses which they suffered that season have not as yet been made good.

Indeed I doubt if a dozen nests of the Hummingbird have been found in the Cambridge Region during the past twenty-five years. Most of those which have been reported within the period covered by my personal recollection have occurred in Arlington and Lexington. I have seen but two in Cambridge. The first of these, containing young, was found in an apple tree in the grounds of the Nichols estate on Brattle Street upwards of forty years ago; the other, with its complement of two eggs, I took on June 3, 1878, in a silver-leaved poplar just behind the house of the late Professor Henry L. Eustis on Kirkland Street. Mr. Charles R. Lamb tells me that as lately as the summer of 1900 a pair again bred in the Nichols estate, placing their nest on a low branch of one of the large horse chestnut trees which stand directly in front of the house, and bringing out their young successfully.

The return flight of Hummingbirds from further north begins to reach us about the middle of July, and lasts well into September. It is at its height in August, when, for two or three weeks, the birds are usually common and often positively abundant, frequenting gardens where such plants as the larkspur, bee balm, nasturtium, and trumpet-vine, flower profusely, and swampy woods or roadsides where the touch-me-not (*Impatiens*) abounds. At this season adult males (still showing brilliant ruby throats) are sometimes seen, but over ninety per cent of the birds are females and young males.

The Hummingbird is mentioned by both Morton and Wood in terms which indicate that it was common about Boston in early Colonial days.

[*Agyrtia viridissima* (Less.). LINNÉ'S HUMMINGBIRD. This South American species was originally attributed to the Cambridge Region by Dr. Allen¹ on the strength of a bird found by him in my possession in 1869 and still preserved in my collection. The history of this specimen is as follows. Early in August, 1865, I shot a Hummingbird in our garden in Cambridge. It was taken by my father to a bird store in Boston, and was left there to be mounted. The proprietor of this store was accustomed to have his taxidermic work done by Nathaniel Vickary, of Lynn, to whom, without much doubt, my Hummingbird was sent. When a similar looking specimen came back to me a few weeks later, I accepted it with entire confidence as the bird that I had killed. There are several reasons for believing that it may have been the same. In the first place Mr. Vickary has always been regarded as trustworthy in respect to such matters. In the second my bird, being shot at very close range, had most of its tail-feathers badly shattered by the charge—as is true of the specimen that was returned to me. On the other hand I was only fourteen years of age at the time the incident occurred, and, moreover, so unfamiliar with the technical characters of Hummingbirds that I might, without question, have been easily imposed on. With respect to all cases of this kind, however, possibilities, or even probabilities, should not be very seriously considered, provided there are any grounds for reasonable doubts. Hence the above record must be discredited as, indeed, most ornithologists (including Dr. Allen) have long since agreed.]

¹ J. A. Allen, *American Naturalist*, III, 1870, 645.

117. *Tyrannus tyrannus* (Linn.).

KINGBIRD.

Common summer resident.

SEASONAL OCCURRENCE.

April 27, 1897, one seen, Arlington, W. Faxon.

May 5 — September 1.

September 11, 1891, one seen, Arlington, W. Faxon.

NESTING DATES.

May 30 — June 8.

The Kingbird occurs in the greatest numbers at its seasons of migration, but it also breeds very commonly throughout most of the Cambridge Region, especially where there are old orchards and fields or pastures sprinkled with isolated oaks and scraggy wild apple trees. In the days of my youth there were many such fields and orchards in parts of Cambridge which are now thickly covered with houses, and the Kingbird inhabited most of them in summer. I remember when it bred regularly and rather plentifully in the country lying between Sparks Street and Fresh Pond and more sparingly in that immediately to the northward of the Botanic Garden. I even saw it occasionally in June on Dana Hill, Cambridgeport, when I was in the High School (1865-1869). It nested for the last time in our garden in 1884. Since then it has ceased to pay us anything more than fleeting migratory visits, although I continue to find it in June and July in the neighborhood of Fresh Pond and Mount Auburn. It used to frequent the marshes along Charles River in late summer, appearing there in small, straggling flocks with the southward-bound flights of Swallows. Its gradual retirement from the greater part of Cambridge has been due, no doubt, chiefly to the contemporaneous building up of vacant lots and the rapid increase and dispersion of shade trees, for the Kingbird is never really at home save where there are wide spaces of open land (or water).

Mr. T. B. Bergen has reported¹ seeing a Kingbird in Cambridge on April 16, 1898, a date so exceptionally early that one cannot help suspecting that some mistake was made in respect to the observation.

¹ T. B. Bergen, *Auk*, XV, 1898, 268-269.

118. *Myiarchus crinitus* (Linn.).

CRESTED FLYCATCHER. GREAT CRESTED FLYCATCHER.

Rare summer resident.

SEASONAL OCCURRENCE.

May 9, 1889, one seen, Arlington, W. Faxon.

May 15 — September 1.

September 26, 1897, one seen, Arlington, W. Faxon.

NESTING DATE.

June 26, 1900, nest¹ and five eggs,¹ Waltham, W. Brewster and O. A. Lothrop.

Although the noisy and quarrelsome but, nevertheless, interesting Crested Flycatcher breeds commonly in Canton, only about twelve miles south of Boston, it is one of the rarer summer birds in Middlesex County. My notes record only three instances of its occurrence in the Cambridge Region between 1865 and 1885, but during the past ten or twelve years from one to two or three pairs have been met with here nearly every season, usually in old apple orchards in Belmont or Arlington. In 1894 a nest with eggs was taken by a boy in Gray's Woods, Cambridge, and on June 26, 1900, Mr. O. A. Lothrop showed me another, containing five fresh eggs, built in a hollow branch of an apple tree not far from Sherman's Pond, Waltham.

On August 31, 1881, a Crested Flycatcher visited the grounds (adjoining our own) at the rear of Mr. Charles Theodore Russell's house on Sparks Street, where it remained until September 3. I frequently heard it calling, especially in the early morning and about sunset, but it kept closely concealed among the foliage of the large apple trees, which evidently afforded it a safe and congenial retreat. Another bird, seen in our garden on May 15, 1900, and again on the following day, by Mr. Walter Deane, continued perfectly silent during its entire stay. It was rather shy, although, when no one was in sight, it spent much of its time perched on the topmost twig of an isolated cherry tree. These two instances are the only ones known to me of the occurrence of the Crested Flycatcher in any of the more densely populated parts of Cambridge.

¹No. 3898, collection of William Brewster.

119. *Sayornis phœbe* (Lath.).

PHŒBE.

Common transient visitor and not uncommon summer resident.

SEASONAL OCCURRENCE.

March 18, 1903, one seen, Lexington, W. Faxon.

March 25 — October 10.

November 15, 1878, one taken, Belmont, C. W. Townsend.

NESTING DATES.

April 28 — May 10.

According to Nuttall¹ a pair of Phœbes nested in the boathouse at the Fresh Pond Hotel in 1831, and Lowell in 'My Garden Acquaintance' mentions² the species in terms which indicate that it continued to breed at Elmwood up to about 1868. Mr. C. F. Batchelder writes me that "in the middle or later '60's a pair nested for at least two or three seasons, in spite of much disturbance (that caused them to desert their eggs once or twice), under a rough piazza roof at the back of our house" on Kirkland Street, Cambridge. As recently as 1898, Mr. Walter Deane observed a pair which had a nest on the timbers of a bridge that spans one of the artificial ponds in Mount Auburn. On May 28, 1869, I found a nest with two eggs, built among the roots of a fallen tree in the Pine Swamp, and I have seen a few nests which were placed beneath the eaves of icehouses on the shores of Fresh and Spy Ponds.

During the earlier as well as later years of my experience, however, the Phœbe has never occurred commonly within the present limits of the city of Cambridge, excepting at its seasons of migration when I used to meet with it very frequently in the fields and orchards bordering Fresh Pond and Vassall Lane as well as in the neighborhood of the Cambridge Cemetery and Mount Auburn. It has also been seen, at these seasons, in Norton's Woods. Throughout the farming districts of Belmont, Arlington, Lexington, Watertown, and Waltham, it still breeds rather commonly, although by no means so generally and numerously as it did thirty or forty years ago.

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 280-281.

² J. R. Lowell, Atlantic Almanac for 1869, 1868, 37.

120. *Nuttallornis borealis* (Swains.).

OLIVE-SIDED FLYCATCHER.

Formerly a locally common summer resident ; now only a transient visitor, rare in spring and recorded but once in autumn.

SEASONAL OCCURRENCE.

May 15, 1889, one seen, Arlington Heights, J. Dwight, Jr.

May 20 — June 6. (Formerly in summer.)

September 5, 1897, "one bird seen, and singing," Arlington, W. Faxon.

NESTING DATES.

June 16 — 25, formerly.

The local history of the Olive-sided Flycatcher is peculiarly interesting. The bird was first reported from the Cambridge Region by Nuttall who states¹ that it "was obtained in the woods of Sweet Auburn, in this vicinity, by Mr. John Bethune, of Cambridge, on the 7th of June, 1830. This, and a second specimen, acquired soon afterwards, were females on the point of incubation. A third individual of the same sex was killed on the 21st of June, 1831." All three of these birds were apparently taken at 'Sweet Auburn' where Nuttall himself "watched the motions of two other living individuals," probably in 1830 or 1831, although the year when his observations were made is not mentioned. "One of the birds, the female, whom I usually saw alone, was uncommonly sedentary. The territory she seemed determined to claim was circumscribed by the tops of a cluster of tall Virginia junipers or red cedars, and an adjoining elm, and decayed cherry tree . . . , in the solitude of a barren and sandy piece of forest, adjoining Sweet Auburn The nest of this pair I at length discovered, in the horizontal branch of a tall red cedar 40 or 50 feet from the ground. . . . It contained 3 young, and had probably 4 eggs. The eggs had been hatched about the 20th of June, so that the pair had arrived in this vicinity about the close of May."

My own acquaintance with the Olive-sided Flycatcher also began at 'Sweet Auburn'—or Mount Auburn, as it had then come to be called—and on June 9, 1867, when my attention was attracted by the clear, ringing voice of a bird

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 282, 283.

which I quickly discovered perched in the blasted top of a tall oak near the stone tower and at once recognized. Returning a few days later (on June 18), I searched the whole neighborhood and its surroundings, finding three pairs of the Flycatchers and two of their nests which were built on the horizontal branches of isolated pitch pines. One of these trees was of rather large size and growing on the top of a knoll just within the boundary fence of Mount Auburn Cemetery, about two hundred yards to the eastward of the tower and nearly opposite the entrance gate of the Cambridge Cemetery; the other tree, scarce fifteen feet in height, stood on the crest of a low ridge about half a mile to the southwestward near the mouth of Arsenal Brook. The first nest contained four eggs which had been incubated only a few days; the other, three eggs in which the embryos were far advanced. In the same locality, on June 16 of the following year (1868), I again found two nests. One, with three fresh eggs, was in an apple tree (an unusual situation), near the extremity of a long, drooping branch and about twelve feet above the surface of a little pond (now partially filled), just behind Mount Auburn; the other, containing two eggs,¹ also perfectly fresh, was near the mouth of Arsenal Brook, in the same small pitch pine in which one of the nests of the preceding year had been placed. On both occasions the birds built so very near the ground that I could look into their nest by pulling down the slender branch on which it rested.

All the eggs just mentioned were taken. None of the birds, however, were molested and, as they were seen or heard in their respective haunts after their nests had been despoiled, I consider it probable that they laid again on each occasion and reared their broods in safety. I was unable to observe them closely after 1868, but my notes show that at least one pair frequented Mount Auburn in the summers of 1869 and 1874. In June of either 1877 or 1878 Mr. M. Abbott Frazar took a nest with three eggs about half a mile to the westward near the Watertown Arsenal, and during the following year he secured another nest in the same locality. Since then no one, so far as I am aware, has noted the Olive-sided Flycatcher in the Mount Auburn region, even during migration.

From 1868 to 1879 inclusive I used to find Olive-sided Flycatchers nearly every season at Waverley, usually during the latter half of May and in or near what is now known as the Beaver Brook Reservation. Some of these birds may have been migrants, lingering for a day or two only before continuing their journey northward, but the behavior of others satisfied me at the time that they were settled for the summer and preparing to breed. Unfortunately most of them were shot, almost as soon as they arrived, by the local collectors of that period. In 1874 a pair almost certainly attempted to nest in some mixed cedar and pitch pine woods on the eastern slope of the hill which extends from Waverley

¹ These eggs with the nest, no. 1780, are still in my possession.

to Belmont, for they were constantly seen there from late in May up to June 14, when, as I regret to say, both birds were killed.

Since 1880 the Olive-sided Flycatcher has been met with in the Cambridge Region only during migration and then but rarely. Its withdrawal from our neighborhood cannot be attributed either to the local persecution from which it has undeniably suffered to some extent or to changes in its breeding grounds. At Waverley the woods have remained practically untouched to the present day, and for several years after the last specimen was killed there the birds continued to reappear in their usual numbers, while the little colony at Mount Auburn, as I have already said, was disturbed only by the taking of a few nests, and it ceased to exist before any material changes had been made in its haunts. Moreover the abandonment by the Olive-sided Flycatcher of the localities just mentioned was coincident with its disappearance from Medford, West Newton, Auburndale, Waltham, Concord, and various other towns within twenty miles of Boston, where it was found breeding more or less regularly and commonly during the last ten or fifteen years of its occupancy of the Cambridge Region. The mystery attending its disappearance is not likely to be ever definitely solved, but, as I have stated in connection with a theory advanced in the Introduction to the present Memoir, I am inclined to believe that the birds which formerly bred in eastern Massachusetts represented an overflow from other and more congenial summer haunts to which they have since returned.

121. *Contopus virens* (Linn.).

WOOD PEWEE.

Common transient visitor and not uncommon summer resident.

SEASONAL OCCURRENCE.

May 10, 1895, one male seen and heard, Arlington, W. Faxon.

May 18 — September 15.

September 27, 1893, one seen, Arlington, W. Faxon.

NESTING DATES.

June 10 — 25.

Although the characteristic haunts of the Wood Pewee are deep, solitary woods, the bird used to breed rather commonly in apple orchards and small, isolated groves of oaks or hickories, on the outskirts of Cambridge. It was also

found regularly, if somewhat sparingly, in summer, throughout much of the city proper, especially in the neighborhood of Harvard College and in the old elms overhanging Brattle Street. In the days of my boyhood there was always a nest on our own place, but the birds bred there for the last time in 1878. A pair frequented some large oaks and willows in the late Dr. Morrill Wyman's grounds at the head of Sparks Street through the entire summer of 1899, and since then I have heard birds in June or early July in Norton's Woods, at Elmwood, and in the Mount Auburn and Cambridge Cemeteries. Everywhere in or very near Cambridge, however, and even throughout the more retired portions of Arlington, Belmont and Waltham, the Wood Pewee has been slowly but steadily diminishing in numbers for the past twenty-five years. I am inclined to believe that the English Sparrows have been largely responsible for its practical disappearance from the more densely populated parts of the Cambridge Region, and that its partial withdrawal from the country districts has been due chiefly to the cutting down or pruning of so many of the older forest and orchard trees. However this may be, it is deplorable that so attractive a bird should bid fair to become nearly or quite lost to our local summer fauna.

The Wood Pewee still occurs rather numerously at its seasons of migration, especially in late August when its sad, plaintive notes may be heard almost everywhere in our woods and orchards, accentuating rather than breaking the otherwise profound silence of the hot midday hours.

122. *Empidonax flaviventris* Baird.

YELLOW-BELLIED FLYCATCHER.

Transient visitor in late spring and early autumn, often occurring rather numerously.

SEASONAL OCCURRENCE.

May 16, 1905, one seen, and heard calling, in our garden, Cambridge, W. Deane.

May 25 — June 3.

June 5, 1875, one heard, Belmont, W. Brewster.

August 25, 1884, one male¹ and two females¹ taken, Watertown, W. Brewster.

August 28 — September 8.

September 9, 1875, one im. female (?)² taken, Maple Swamp, W. Brewster.

The Yellow-bellied Flycatcher is one of the most silent and retiring of

¹ Male, no. 9488, females, nos. 9489 and 9490, collection of William Brewster.

² No. 1380, collection of William Brewster.

birds. For this reason it is seldom noticed save by those who look for it carefully and intelligently at the proper times and places. From 1869 to 1885, when I was actively engaged in collecting about Cambridge, I used to note it regularly, both during the spring migration in May and when the return flights were passing southward in late August and early September. I was accustomed to find it at a number of different localities in Arlington and Belmont, but most frequently and numerously in the pitch pine and Virginia juniper woods which formerly covered so much of the country immediately to the westward of Mount Auburn and among dense thickets of deciduous shrubs in the Fresh Pond Swamps. It was unusual to meet with more than one or two birds in a single day, although I have seen as many as five or six in the course of as many consecutive hours. But few instances of the local occurrence of the Yellow-bellied Flycatcher have been brought to my notice within recent years, but I have little doubt that the species visits us quite as regularly and commonly now as it did in earlier times.

123. *Empidonax traillii alnorum* Brewst.

ALDER FLYCATCHER. TRAILL'S FLYCATCHER.

Transient visitor, of irregular and usually rare occurrence in spring, very rare in autumn; occasionally seen in summer, also.

SEASONAL OCCURRENCE.

May 23, 1891, one male taken (Concord), W. Brewster.

May 28—June 6. (Summer.)

August 24, 1875, one im. female¹ taken, Brickyard Swamp, W. Brewster.

NESTING DATES.

June 15—25.

On June 2, 1873, I killed an Alder Flycatcher in a thicket of barberry bushes growing within a few yards of Mr. Charles Deane's house on Sparks Street, Cambridge, and on May 31, 1875, I heard the characteristic call note of another in some shrubbery just across this street from our garden and in front of Mr. Israel M. Spelman's house. The next morning I found two birds among low willows in the Brickyard Swamp, and a third in the Pine Swamp. They were as noisy and apparently quite as much at home as if on their breeding

¹No. 45,173, collection of William Brewster,

grounds, uttering their songs or calls almost incessantly. I shot two of them, and I have a fourth Cambridge specimen which I killed on August 24, 1875, in the Brickyard Swamp. The bird last mentioned furnishes the only instance known to me of the occurrence of the species during its return migration.

Mr. Walter Faxon heard an Alder Flycatcher in the Beaver Brook Reservation, Waverley, on May 30, 1890, and another in Arlington on May 31, 1891, while a third, which he found at Great Meadow, on June 3, 1894, remained in the same place for a little more than a week, being last seen on June 11.

Mr. J. A. Farley, who has repeatedly taken the nest and eggs of this Flycatcher at Lynnfield, Massachusetts, reports¹ that he has "noted it in the breeding season . . . so near Boston as Fresh Pond, Cambridge," where, as he informs me by letter, he met with a bird on June 9, 1900, in a bushy tract somewhere to the northward of the Glacialis. This individual, as well as the one seen by Mr. Faxon at Great Meadow, may have been settled for the season and preparing to breed, although in neither instance was the date of observation sufficiently late to make this certain. In 1901, however, a male remained in Waverley nearly if not quite through June, frequenting a meadow traversed by a brook the banks of which, as well as those of some connecting ditches, were fringed with panicked cornel, alder, raspberry and blackberry bushes, and a variety of other low-growing native shrubs. It would be difficult to imagine a more typical breeding ground of the Alder Flycatcher than that afforded by these thickets; but, although they were repeatedly and most thoroughly searched, the nest, if really concealed there, escaped observation. Mr. Walter Deane and I looked for it long and carefully on the morning of June 25, when the Flycatcher was singing or calling almost incessantly among some elms on the borders of the meadow. I cannot learn that the bird was noted after this date, or that it was ever seen in company with a mate.

The Alder Flycatcher has been so long and familiarly known as Traill's Flycatcher that there are very many of us who, through mere force of habit, continue to call it by that name. It has been recently ascertained,² however, that the true Traill's Flycatcher of Audubon does not occur in New England, where it is replaced by the closely allied form *alnorum*. The latter breeds rather commonly in Berkshire County, Massachusetts, and in the adjoining elevated portions of northwestern Connecticut, but only locally and very sparingly in eastern Massachusetts. It is found abundantly in summer in many parts of Maine, New Hampshire and Vermont, where it frequents thickets and second-growth woods on the borders of clearings and along the banks of streams.

¹ J. A. Farley, Auk, XVIII, 1901, 347.

² W. Brewster, Auk, XII, 1895, 159-163.

124. *Empidonax minimus* Baird.

LEAST FLYCATCHER. LEAST PEWEE. CHEBEC.

Very common summer resident.

SEASONAL OCCURRENCE.

April 22, 1889, one male¹ taken, Cambridge, W. W. Brown.

May 1 — August 25.

September 21, 1893, one male² taken, Lexington, R. Hoffmann.

NESTING DATES.

May 20 — June 5.

The Chebec is the commonest and most familiar of our smaller Flycatchers. It breeds throughout the Cambridge Region;—most numerously in apple or pear orchards; frequently in shade trees near houses; sparingly or, at least, locally in extensive upland woods; rather commonly in swampy woods of limited extent, such as those in the Maple Swamp which has always been one of its favorite haunts. It used to be very generally and plentifully distributed over practically the whole of Cambridge, but since the English Sparrows became abundant it has nearly disappeared from the more densely populated parts of that city. One or two pairs continue, however, to linger near the Museum of Comparative Zoölogy and in the neighborhood of our own place. The last nest that was built in our garden (in 1895) was attacked by a large troop of English Sparrows when it contained young about half grown. Although both parents defended it with the utmost spirit, the Sparrows succeeded in tearing away part of the outer walls of the nest, and one of them, standing on its rim, bent down and delivered several murderous but fortunately ineffective pecks at the heads of the young. In the end the Flycatchers triumphed and put the cowardly horde to ignominious flight. As I watched this desperate combat I became fully satisfied as to the reasons why the Least Pewee has so nearly deserted Cambridge.

[*Alauda arvensis* Linn. SKYLARK. Dr. J. A. Allen, writing in 1880, says: "Skylarks and other European birds were set loose, some years ago, in Mount Auburn Cemetery, Cam-

¹ No. 25,222, collection of William Brewster.

² No. 44,433, collection of William Brewster.

bridge, but are supposed to have all soon died.”¹ I can add nothing to this statement, for I have no recollection of any such introduction of foreign birds, nor is it mentioned anywhere in my manuscript notes.]

125. *Otocoris alpestris* (Linn.).

HORNED LARK. SHORE LARK.

A not uncommon transient visitor in early spring and late autumn; occasionally seen in winter, also.

SEASONAL OCCURRENCE.

October 28, 1869, flock of fifty seen, Fresh Pond, W. Brewster.

November 1 — April 10.

April 19, 1878, one male² taken, Cambridge, H. M. Spelman.

The Cambridge Region seems to offer few attractions to the restless, wide-roving Horned Lark. It is true that we note this species very regularly and not infrequently in spring and autumn — as well as occasionally in winter — flying in loose, scattered flocks over ponds, marshes and broad stretches of open, upland country; but most of the birds which we see are evidently either migrating or on their way to distant feeding grounds. I have known them to frequent the shores of Fresh Pond, when its waters were sufficiently low to expose extensive mud flats in the shallower coves, and I have repeatedly met with them running over ploughed land in Belmont or Watertown, while on one occasion (December 17, 1868) I found three birds feeding on a gravelly ridge where the Cambridge Hospital now stands. Shore Larks may still be seen within the limits of our city in Cambridgeport where, as I am told by Dr. A. H. Tuttle, they occasionally visit the filled land that has replaced the salt marshes near Harvard Bridge. There is, however, so far as I am aware, no locality in our immediate neighborhood where the Shore Larks are, or ever have been, in the habit of regularly and frequently alighting. They occur oftenest in late March or early April and during November. My note-books record a few instances of their appearance, in small numbers, in December and February, as well as one reference to five birds which were observed on January 27, 1871.

¹ J. A. Allen, Bulletin of the Nuttall Ornithological Club, V, 1880. 120.

² No. 117, collection of H. M. Spelman.

126. *Otocoris alpestris praticola* Hensh.

PRAIRIE HORNED LARK.

Very rare transient visitor.

On August 21, 1897, Mr. H. A. Purdie and I found a young Prairie Horned Lark at Payson Park, Belmont. It was feeding, in company with a number of Vesper and Chipping Sparrows, among some weeds which covered the surface of a recently gravelled roadway. Approaching within a few yards of the bird, we watched it for ten or fifteen minutes as it rambled about searching for food. Every now and then it would stop and stand erect for an instant with the feathers of the crown raised in a pointed crest. It was still in the spotted first plumage, but the wings and tail were fully grown. The date on which it was met with and the fact that it was evidently too young to have come from any great distance afford practically conclusive evidence that it must have been a Prairie Horned Lark. Were it not for these considerations I should not venture to formally include *praticola* in the present Memoir on the strength of the evidence just given, for although Mr. Purdie and I were perfectly sure of our identification of the bird seen at Payson Park we were unprovided, at the time, with any means of securing the specimen.

I know of no other instance of the occurrence of the Prairie Horned Lark in the Cambridge Region, but the bird has been noted with increasing frequency of late in other parts of eastern Massachusetts, to which it appears to be chiefly a migratory visitor although its young in first plumage have been recently taken in summer at Ipswich. It has been found nesting very commonly, if somewhat locally, in many of the more open portions of Maine, New Hampshire and Vermont, and also in Berkshire County, Massachusetts. There is a general impression that it has extended its breeding range into New England, from New York and regions further to the westward, within the past twenty-five or thirty years. I suspect, however, that it has been a summer resident of Massachusetts during a somewhat longer period, for on July 5, 1869, I saw at Concord a pair of birds which were certainly Horned Larks of some kind and which, in the light of our present knowledge, it is fair to assume must have belonged to the form *praticola*. They were flying about over some sandy fields admirably adapted for breeding grounds and, indeed, closely similar to summer haunts of the Prairie Horned Lark that I have visited in New York State and elsewhere.

127. *Cyanocitta cristata* (Linn.).

BLUE JAY.

Permanent resident, common at all seasons, but most numerous represented in autumn.

NESTING DATES.

April 28 — May 20.

Since time immemorial the Blue Jays of the Cambridge Region have been mercilessly persecuted by boys just learning to shoot, as well as by vandal gunners of maturer years. Nevertheless the birds do not appear to have diminished sensibly in numbers, at least during the period covered by my personal recollection. Within recent times, however, they have nearly or quite deserted several of their former haunts in the immediate neighborhood of Cambridge. Most favored of these in the earlier days was the region lying to the westward of Mount Auburn where beautiful, secluded woods of oak and pine, groves of old Virginia junipers, extensive orchards of large apple trees, and sheltered nooks and hollows abounding in seed-bearing weeds and berry-laden shrubs, combined to form a perfect paradise for birds of various kinds. The noisy, brilliant-plumaged Jays were found here at all seasons. In autumn and winter, when they were most abundant and conspicuous, it was by no means unusual to meet with them in flocks containing as many as a dozen or fifteen birds each. Their range extended from the Watertown Arsenal to about where the Cambridge Hospital now stands, and included Mount Auburn, the old Winchester place on the banks of Charles River, the Cambridge Cemetery, the adjoining Coolidge farm, Elmwood, and Gray's Woods. They also appeared regularly, if somewhat sparingly and infrequently, in most of the cultivated grounds along Brattle Street. I cannot recall ever seeing them to the southward of Harvard Square, but they used to frequent Norton's Woods and, I believe, are occasionally found there still. I have known them to breed in the Norway spruces of Hubbard Park, and in 1878 a pair hatched and reared their brood within our own grounds, building their nest near the top of a tall linden which stands close to the house. In the neighboring Nichols estate, as I learn from Mr. Charles R. Lamb, several young, barely large enough to fly, were observed as lately as the summer of 1900.

A few Blue Jays continue to reappear in autumn and winter throughout most of the densely populated region lying between the Botanic Garden and Mount Auburn, and they are not infrequent visitors to our garden. At the present

time, however, one must go as far inland as Arlington or Belmont to find the birds in any numbers. In certain parts of these towns, as well as in Lexington and Waltham, they are common enough at all seasons, especially in extensive and primitive tracts of woodland where pines, hemlocks and Virginia junipers abound. In summer they are chiefly confined to the woods, but in winter, when the weather is not too cold and windy, they often venture well out into the open country, visiting apple orchards, trees and shrubbery along roadsides, and briery thickets bordering swamps and the courses of brooks. They are still more venturesome, as well as much more ubiquitous, in autumn when the flights of more northern-bred birds are passing southward. Indeed there are days in early October, just before the leaves begin to fall, when the whole country seems alive with Blue Jays and when one is rarely out of sound of their shrill voices, even in the heart of towns and villages.

128. *Perisoreus canadensis* (Linn.).

CANADA JAY.

Casual visitor from northern New England.

There are two records of the occurrence of the Canada Jay in the Cambridge Region. The first of these, relating to a bird in my collection, taken by Mr. E. B. Winship, is unquestionably authentic in the main, although apparently inaccurate in respect to certain of its published details. Mr. J. R. Mann, who mounted the specimen, receiving it in the flesh from Mr. Winship, originally reported¹ that it was killed on October 16, 1889, at Arlington Heights. He has since written me that the correct date was "probably" the 17th instead of 16th of October; and Mr. W. P. Hadley, who was with Mr. Winship when the bird was shot, tells me that it was found not at Arlington Heights, but on the Winship farm in Lexington, very near the southern borders of Woburn. It was in deciduous woods, composed chiefly of maples, and appeared to be quite alone.

The other record rests on too slight evidence or, at least, authority, to inspire much confidence. It concerns a bird which is assumed to have belonged to the present species and which was seen at Arlington Heights on May 12, 1896.²

¹ J. R. Mann, *Ornithologist and Oölogist*, XIV, 1889, 176.

² W. S. Kennedy, *In Portia's Gardens*, 1897, 221.

Mr. Maynard met with a Canada Jay at Newtonville, in early summer, about twenty-five years ago,¹ and there is a mounted specimen in the Essex County collection of the Peabody Academy at Salem, Massachusetts, which was shot near that city on October 25, 1878.²

[*Corvus corax principalis* Ridgw. NORTHERN RAVEN. Wood, writing in 1634 of the birds which he found in New England, says: ³ "The Ravens, and Crows be much like them of other Countries," and Josselyn, in the 'Two Voyages,' published in 1674, asserts ⁴ that "the Raven is here numerous." From these statements, and from those of certain more recent authors which need not be cited here, we may infer that the Raven was common and generally distributed throughout the coast region of eastern Massachusetts and New Hampshire, with that of southern Maine, when the country was first settled. We may further assume, with reasonable safety, that Wood saw the bird very near, if not actually in, the Cambridge Region, for he lived at 'Saugus' (now Lynn) during most of his stay in the colony, and his text indicates that he must have repeatedly visited the country lying about Cambridge and Boston.]

129. *Corvus brachyrhynchos* C. L. Brehm.

AMERICAN CROW. CROW.

Common permanent resident and abundant transient visitor in spring and autumn.

NESTING DATES.

April 15—28.

The Crow is the only large bird which can be seen every day in the year throughout the Cambridge Region. Here it has not only held its ground, in spite of the cutting down of woods and orchards and the multiplication of houses, but during the past quarter of a century it has apparently increased in numbers and has certainly extended its local breeding range. In my younger days Crows seldom alighted anywhere in the neighborhood of our place and none were ever known to nest there, although they bred regularly on the Norton estate, where there were rather extensive and really primitive woods, as well as at Elmwood, which was then on the extreme outskirts of the city proper. At that time we often found Crows' nests in the Pine Swamp, and in the cedar and pitch pine woods to the westward of Mount Auburn, while the birds paid frequent preda-

¹ C. J. Maynard, *Birds of Eastern North America*, pt. vii, 1878, 168.

² W. Brewster, H. D. Minot, *Land-birds and Game-birds of New England*, ed. 2, 1895, 474-475, Appendix.

³ William Wood, *New Englands Prospect*, ed. 2, 1635, 25. Charles Deane's ed., 1865, 32.

⁴ John Josselyn, *Two Voyages to New-England*, ed. 2, 1675, 98. W. Veazie's reprint, 1865, 78.

tory visits in spring and summer to the farming country lying to the eastward of Fresh Pond. In autumn and winter they assembled, sometimes in considerable numbers, to feed on the marshes and muddy banks along Charles River between Cambridgeport and Watertown. Throughout most of Arlington, Belmont, Watertown, and Waltham they were then — as they are still — numerous and conspicuous at all seasons, but especially so in early spring and late autumn, when the migratory flights were passing.

When, some twenty-five or thirty years ago, the suburbs of Cambridge began to extend rapidly in the direction of Fresh Pond and Mount Auburn, the Crows at first retreated, but, being shrewd and observing, as well as wary and suspicious birds, they have apparently learned by slow degrees that where houses and ornamental grounds replace orchards and cornfields man practically ceases to molest them. At all events they have not only returned to most of their former haunts, but have even taken up new ones in rather densely populated parts of the city. They now frequent the trees about our house almost as regularly and familiarly as do the Flickers and Downy Woodpeckers, while nests with eggs or young have been found of late in Hubbard Park; over the driveway leading to the late Dr. Morrill Wyman's house; in the grounds of the Harvard Observatory; and at several other places in our immediate neighborhood. In the summer of 1900 a pair actually succeeded in rearing three or four young not far from the State House on Beacon Hill, Boston. Their nest was built in a large elm directly behind the Somerset Club house on Beacon Street. The birds were often seen feeding in the Common and Public Garden where they naturally attracted much attention and interest, for they were the first Crows that had appeared in these city parks for very many years.

130. *Corvus ossifragus* Wils.

FISH CROW.

Casual visitor; one record.

There is but one record,¹ I believe, of the occurrence of the Fish Crow in the Cambridge Region, *viz.*, that of a bird which I saw on March 16, 1875, flying over our garden in a westerly direction, pursued by an excited mob of common Crows. Although the fugitive was identified merely by its peculiar notes (which were repeatedly uttered) and by its equally characteristic manner

¹ W. Brewster, Bulletin of the Nuttall Ornithological Club, I, 1876, 19.

of flight, I have never felt that there could be any reasonable doubt as to the correctness of my determination, for I was perfectly familiar, at the time, with the Fish Crow in life, having studied it only the year before, in the neighborhood of Washington, D. C. When my note was published the Fish Crow had never been taken in Massachusetts, but since then a specimen has been shot at Wareham,¹ and another at Springfield.²

In the spring of 1905 Mr. J. A. Farley and Mr. E. H. Forbush met with Fish Crows in considerable numbers in the southern part of Massachusetts near the shores of Buzzards Bay. Mr. Farley writes me that the birds were noted there on several occasions between March 27 and May 30. On May 7 *seventeen* were seen at one time. No nests were found although Mr. Farley made a long and thorough search for them.

131. *Dolichonyx oryzivorus* (Linn.).

BOBOLINK. SKUNK BLACKBIRD.

Summer resident, formerly abundant and generally distributed, still occurring numerous in a few localities.

SEASONAL OCCURRENCE.

May 1, 1890, one male heard, Belmont, W. Faxon.

May 8 — September 10.

September 25, 1882, one seen, Cambridge, H. M. Spelman.

NESTING DATES.

June 1 — 8.

In the days of my youth Bobolinks nested every season in a grassy enclosure just behind our house, and their tinkling music might be heard almost everywhere in the fields and meadows a little further to the westward, especially in those bordering on Vassall Lane. The birds were still more numerous in the meadows between Belmont and Hill's Crossing and throughout the broad mowing lands of the Adams estate in Watertown. We saw them last in our own grounds about 1873, and they had disappeared from the entire region lying to the south and east of Fresh Pond before 1885. During the next decade they abandoned most of their former haunts in the eastern parts of Watertown and

¹ W. Brewster, *Auk*, IV, 1887, 162.

² R. O. Morris, *Auk*, XIV, 1897, 100. No. 48,279, collection of William Brewster.

Belmont — where, however, a few scattered pairs still breed. Thus it has come to pass that those of us who, with the advent of each fresh summer, feel an uncontrollable longing to renew early associations by rambling through fields crowded with white daisies and golden buttercups and alive with rollicking Bobolinks, must now go well beyond the confines of the city of Cambridge to gratify this desire. Fortunately the birds are still common enough in the meadows about Waverley, at Rock Meadow, and at various other localities to the westward of the town centers of Arlington, Belmont, and Watertown. Their gradual withdrawal from the more eastern portions of the Cambridge Region has been coincident with, and, no doubt, due largely to, the physical changes which have been wrought in so many of their former haunts. They have been steadily diminishing in numbers, however, in many other parts of Massachusetts, for twenty years or more. This general decrease has been caused chiefly, I believe, by the changed methods and season of harvesting our hay crops. Formerly the grass was cut by hand, and rarely before the middle of July when most of the young Bobolinks were safely on wing; now late in June, while nearly all of them are still in the nest, the fields are so thoroughly shorn by the mowing-machine and scored by the horse-rake that the young birds stand little chance of escape.

At the close of their breeding season in July, and when the migratory flights are arriving from further north in August, Bobolinks resort, in flocks, to the Fresh Pond Swamps, where they feed on the seeds of various kinds of wild grasses and sedges. We used to find them at these seasons in the salt marshes along Charles River, sometimes in very considerable numbers.

132. *Molothrus ater* (Bodd.).

COWBIRD. COW BUNTING.

Common summer resident; also found casually in winter.

SEASONAL OCCURRENCE.

March 13, 1898, one seen, Arlington, W. Faxon.

March 25 — November 1. (Winter.)

November 21, 1898, one seen, Belmont, W. Faxon.

NESTING DATES.

May 15 — June 15.

The Cowbird is occasionally seen in our garden, in May or early June, engaged in a furtive search for the nests of Vireos, Yellow Warblers or Chip-

ping Sparrows, in which to lay its eggs, but to this and other densely populated parts of Cambridge, as well as to most of the country lying immediately to the eastward of Fresh Pond and Mount Auburn, the interesting but unprincipled bird has become, within the past ten or fifteen years, a decidedly infrequent visitor. Elsewhere in the Cambridge Region it occurs in numbers which have apparently suffered no diminution during the past quarter of a century.

In spring and early summer Cowbirds are most likely to be found in orchards and grassy upland fields; in late summer and early autumn they frequent pastures where cattle are feeding and fresh-water marshes where, in company with Red-winged Blackbirds and Bobolinks, they gorge themselves on the seeds of the wild rice and of various rank grasses or sedges. In the swampy maple woods which formerly bordered on Little River near its junction with Alewife Brook, there existed, many years ago (from 1873 or 1874 to 1876), an immense Robin roost to which, in late summer, large numbers of Cowbirds and Crow Blackbirds resorted, to pass the night.

The Cowbird usually remains with us through October, and is sometimes seen numerously in November, while it has been known to occur in mid-winter.

133. *Xanthocephalus xanthocephalus* (Bonap.).

YELLOW-HEADED BLACKBIRD.

Casual visitor from the western United States.

The only known instance of the occurrence of the Yellow-headed Blackbird in the Cambridge Region is that which was reported at nearly the same time by Dr. Allen¹ and Mr. Maynard.² The latter says: "A single specimen was procured by my young friend, Frank Sanger, at Watertown, about the 15th of October, 1869. The wings, tail, and one foot of this specimen are now in my possession. Through the kindness of Mr. J. A. Allen, I have been enabled to compare them with specimens of the same species in the Museum of Comparative Zoölogy, thereby identifying them. This bird was in immature plumage, evidently the young-of-the-year. It was shot in an orchard."

I am unable to ascertain what has become of the interesting fragments

¹ J. A. Allen, *American Naturalist*, III, 1870, 636.

² C. J. Maynard, *Naturalist's Guide*, 1870, 122.

mentioned by Mr. Maynard. He writes me that he thinks they were given by him to the Museum of Comparative Zoölogy, but they cannot be found there now; nor are they mentioned in any of the record-books of this Museum.

The Yellow-headed Blackbird is only a chance straggler to New England from its home in the Middle and Far West. In addition to the specimen just considered three others have been taken in Massachusetts, two of them by a Mr. Loud, at Eastham, on September 10, 1877,¹ the third, a female, by Mr. W. B. Revere, at Monomoy Island, on September 8, 1897.²

134. *Agelaius phœniceus* (Linn.).

RED-WINGED BLACKBIRD. REDWING. SWAMP BLACKBIRD.

Abundant summer resident; also found in winter in one locality.

SEASONAL OCCURRENCE.

February 26, 1866, a dozen or more males seen, in full song, Watertown, W. Brewster.

March 10—August 30. (Winter.)

November 17, 1898, large flocks seen, Belmont, W. Faxon.

NESTING DATES.

May 16—28.

The familiar and conspicuous Redwings have thus far yielded but little of the ground that they occupied in and near Cambridge thirty or forty years ago. It is true there are a few localities well within our city limits—such as that where a bushy swamp once existed on the borders of Norton's Woods and some hollows in the fields just to the westward of the site of the old reservoir on Highland Street—from which they have been driven, within my recollection, by the drainage of land or the building of houses, but they continue to breed in apparently undiminished numbers, and really abundantly, in the Fresh Pond Swamps, at Rock Meadow, and at Great Meadow, while there are scores of swampy or marshy places of more limited extent where a few pairs regularly pass the summer.

For several weeks after their first appearance in early spring Redwings are usually found in flocks composed wholly of males. At this season they

¹ J. A. Allen, Bulletin of the Essex Institute, X, 1878, 18.

² L. B. Bishop, Auk, XVIII, 1901, 195.

are seldom seen about their breeding grounds excepting in the early morning and late afternoon. At most other hours of the day they frequent open and often elevated farming country, where they feed chiefly in grain stubbles and weed-grown fields. When disturbed at their repasts they fly to the nearest deciduous trees and immediately after alighting burst into a medley of tumultuous song, inexpressibly wild and pleasing when heard at a distance, but rather overwhelming if the flock be a large one and close at hand. I remember when the birds often indulged in these delightful concerts in apple orchards near our house in Cambridge and when they were always to be heard, at the right season, in the fields bordering Vassall Lane, but that was many years ago. After the female Redwings arrive (I seldom see them before the first week of May) the males spend most of the time with them in the swamps and marshes, but even at the height of the breeding season it is by no means unusual to find birds of both sexes feeding, in flocks, in dry, upland fields.

In the Cambridge Region the nest of the Red-winged Blackbird is almost invariably built in some wet or, at least, very moist place and usually in the top of a low bush; between the stems of a cluster of cattail flags; in a bed of rank grass; or in the crown of one of the curious little mounds formed by the tussock sedge (*Carex stricta*). I learn from Mr. C. F. Batchelder, however, that on June 17, 1877, he found a nest containing young, in "a vertical fork of a small apple tree" in an orchard lying at some distance from any swampy land but not far from the shores of Fresh Pond.

In July and August our Redwings congregate, sometimes by hundreds, in the Fresh Pond Swamps where, in company with Cowbirds and Bobolinks, they feed on the seeds of the wild rice and other semi-aquatic plants which flourish about the borders of ponds and ditches. They used to resort in smaller numbers, at the same season, to the Longfellow Marshes, where I suspect they also bred occasionally, for in May and June I have seen birds, which acted as if they had eggs or young, flying about over brackish pools in the neighborhood of the Cambridge Cemetery.

Most of our Redwings depart for the south before the close of August (an interesting fact in view of the early dates at which they arrive in spring), but they may be sometimes met with in small, straggling troops in September and October, and since 1889¹ a very few (the number varying from one or two to six or eight) have been seen nearly every winter — often in January and February, when the cold was intense and the ground deeply covered with snow — at Pout Pond. They usually appear here about sunset, and evidently pass the night in the shelter afforded by some dense bushes and matted beds of cattail flags. Just how and where they obtain food at this season is not known to me.

¹ H. M. Spelman, *Auk*, VII, 1890, 288-289. R. S. Eustis, *Auk*, XIX, 1902, 204.

135. *Sturnella magna* (Linn.).

MEADOWLARK. MARSH QUAIL. LARK.

Permanent resident, formerly abundant and still not uncommon in summer, occurring regularly, but only locally and in limited numbers, in winter.

NESTING DATES.

May 28—June 8.

The Meadowlark will ever be intimately associated in my mind with the Bobolink, and both species with the level, grassy fields and meadows which, in my younger days, stretched uninterruptedly from the old reservoir on Highland Street, Cambridge, to Fresh Pond. Here both birds bred numerous up to about 1875, and sparingly for a few years later. The Bobolinks usually removed to the neighboring swamps as soon as their young had become strong on the wing; but the Larks invariably remained in the fields until late in the autumn, and in October I have seen as many as thirty or forty of them collected within the space of a single acre. We used to regard them as legitimate game and to hunt them eagerly and persistently, but they were so very wary that even the younger and less sophisticated birds were by no means easy to bag. They afforded us many exciting and valuable lessons in the art of stalking, for we usually attempted to approach them in that way, taking advantage of inequalities in the surface of the ground, or of such cover as was furnished by isolated bushes or tufts of tall grass, and crossing the more open spaces by crawling on hands and knees — or even wriggling, snake-fashion, on our stomachs — through the scanty, drought-parched herbage. Another plan, sometimes crowned by success but much oftener resulting in failure, was that of driving the flock towards some place where one or more of our number had been concealed. At evening we occasionally obtained flying shots at close range by stumbling on birds which had gone to roost in beds of matted meadow grass, where I have known them to lie almost as closely as scattered Quail.

Another favorite and still more extensive summer resort of the Meadowlark in those early days was the tract of open country lying between Belmont and Hill's Crossing. Very many birds also used to inhabit the broad mowing fields of the Adams estate in Watertown. These two stations have not been, as yet, wholly abandoned, and there are other localities in Watertown and Belmont where a few Meadowlarks continue to nest more or less regularly, while one or two pairs

still frequent the old Tudor place at Fresh Pond. There are also several well-known breeding grounds in Lexington and Waltham.

Throughout the Cambridge Region the Meadowlark has diminished sadly in numbers within the past twenty-five years. This decrease has been due partly, no doubt, to changes in local conditions similar to those which have operated in the case of the Bobolink; in addition the Larks have had to contend with cold and starvation in winter, for some of our birds remain in or near their breeding haunts through the entire year, while those which migrate probably go no further south than Cape Cod or Connecticut. It is a matter of definite knowledge that both on the Cape and in Connecticut, as well as in the Middle States and even further to the southward, countless Meadowlarks perished in the severe winter of 1892-1893. They were exceptionally scarce in eastern Massachusetts during the following summer, but since then the losses which they suffered have been partly made good.

136. *Icterus spurius* (Linn.).

ORCHARD ORIOLE.

Summer resident, of local and curiously irregular occurrence.

SEASONAL OCCURRENCE.

May 8, 1895, one male seen, Arlington, W. Faxon.

May 15 — July —.

July 20, 1868, a pair and young seen, Belmont, W. Brewster.

The Orchard Oriole is ordinarily one of our rarest summer birds, and sometimes is apparently wholly absent from the Cambridge Region for years in succession. I have known periods, however, during which it has continued to increase in numbers for several successive seasons until it has become comparatively common, only to disappear again, perhaps abruptly. These fluctuations are not easily explained, but as most of the male Orchard Orioles which we see are immature, and as Massachusetts evidently lies a little to the northward of the normal summer range of the species, it seems probable that the birds visit us only when their breeding grounds in Connecticut and further to the southward become somewhat overpopulated.

Nuttall states¹ that neither he nor his "scientific friend, and a close observer,

¹T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 165.

Mr. C. Pickering," ever saw or "heard of" this Oriole in Massachusetts. I first met with it near Cambridge on July 20, 1868, when I found a pair of old birds, accompanied by several young, feeding on the ground in a freshly mown field in Belmont. On May 19, 1876, a pair appeared in our garden, but remained there only a short time. Since 1880 Mr. Walter Faxon and I have repeatedly noted birds which were apparently settled for the season and probably breeding. Most of them have been seen in Cambridge, Arlington and Belmont, in or near apple orchards. In 1894 they were so numerous that we had no less than six different males under observation. One, which was frequently seen in company with its mate, was evidently nesting in a cluster of buttonwood and wild apple trees on the edge of the Charles River Marshes near the Cambridge Cemetery. Another sang regularly in the elms which shade Fayerweather Street, Cambridge, just to the westward of the site of our old city reservoir. The nest of a third, found by Mr. Faxon in an apple tree in Arlington just after the young had left it, is now in the Museum of Comparative Zoölogy.

137. *Icterus galbula* (Linn.).

BALTIMORE ORIOLE. GOLDEN ORIOLE. GOLDEN ROBIN. HANGBIRD.

Abundant summer resident.

SEASONAL OCCURRENCE.

May 1, 1896, one male seen, Arlington, W. Faxon.

May 8—September 1.

September 9, 1901, one seen, Cambridge, W. Brewster.

NESTING DATES.

June 1—8.

None of the merely local changes which have affected so many of our native birds appear to have caused any diminution in the numbers of the Baltimore Oriole nor even to have materially reduced the area of its breeding range. In May the sound of its rich bugle call and the sight of its striking black and orange livery are quite as frequent and familiar now as they were thirty years ago, even in densely populated parts of Cambridge and its suburbs; here in late June we continue to hear the insistent, monotonous calls of young Golden Robins issuing from nests swinging at the ends of elm branches that droop over our busiest city streets. The birds are still more numerous about

the village centers of Arlington, Lexington, and Belmont, and along such of our country roads as are well shaded by large elms. They also breed very commonly in apple orchards, and their nests are occasionally built in wild cherry trees or maples on the borders of woodlands. After the breeding season is over both old and young resort more or less freely to bush-grown pastures and the edges of woods. On July 19, 1889, I saw upwards of forty collected within the space of half an acre in Norton's Woods, and I have met with smaller flocks at Rock Meadow and in the Maple Swamp.

138. **Euphagus carolinus** (Müll.).

RUSTY BLACKBIRD.

Very common transient visitor. One instance of occurrence in winter.

SEASONAL OCCURRENCE.

March 7, 1876, small flock seen, Watertown, W. Brewster.

March 10 — May 8.

May 30, 1883, one female¹ taken, Cambridge, H. M. Spelman.

September 12, 1868, one seen, Fresh Pond Swamps, W. Brewster.

September 15 — October 31. (Winter.)

November 27, 1875, one taken, Watertown, M. A. Frazar.

The Rusty Blackbird comes to us from the south in early spring about the time when Pickering's hyla begins peeping. The tinkling notes of the Blackbird are, indeed, ever associated in my mind with the bell-like call of the hyla, for at this season the two sounds are usually heard together. Being pitched on nearly the same key, it is not always easy to discriminate them, especially when a score of Blackbirds and several hundred hylas are exercising their vocal organs at once.

During its spring visit, which extends over a period considerably longer than that of most northern migrants, the Rusty Blackbird is seldom seen far from water. It occurs most regularly and numerous in the Fresh Pond Swamps and about Rock Meadow, where it haunts half-submerged thickets of willows, alders and button bushes, or dense young growths of maples bordering on pools and ditches. Occasionally, however, it leaves these secure retreats to visit open

¹ No. 671, collection of H. M. Spelman.

grassy fields close at hand or to accompany flocks of Redwings on more distant excursions, perhaps to grain stubbles or even to apple orchards near houses.

In autumn Rusty Blackbirds are most numerous in the Cambridge Region during the month of October, when roving flocks may be found quite as often in upland fields and pastures as in the lowlands. Wherever they find a field of ripening corn — whether of the yellow, or the sweet, variety — they are sure to visit it almost daily, from the time of their first arrival to that when the last stalks are harvested by the farmer. Early in the season they puncture the kernels and suck out the pasty contents, and after the corn has hardened they sometimes swallow it whole. During the greater part of October they may be seen associating with Robins in 'cedar pastures' or even with Blue Jays in oak and chestnut woods. Indeed there are few places in our country districts which they do not visit occasionally at this season. At evening the scattered flocks all fly to the swamps, sometimes congregating in considerable numbers to spend the night together. In the earlier days the Brickyard Swamp was one of their favorite roosting places. I have seen hundreds of birds enter it between sunset and dark. They came chiefly from the westward, in flocks containing from ten or fifteen to thirty or forty members each.

It is unusual to find Rusty Blackbirds in or near Cambridge later than November 1 or earlier than March 10, but Mr. M. Abbott Frazar shot one in Watertown on November 27, 1875. Mr. Walter Faxon saw another in the Fresh Pond Marshes on February 20, 1887; killing it five days later he found that it was in good condition save for the fact that its toes were frozen. The chances are that Mr. Faxon's bird had passed the winter not far from where it was taken, for migrants of the present species are not known to arrive from the south before the first week of March.

139. *Quiscalus quiscula* (Linn.).

PURPLE GRACKLE. CROW BLACKBIRD.

Rare summer resident.

A small proportion — probably not exceeding ten per cent — of the Grackles which occur about Cambridge approach the form *quiscula*, and occasional specimens are nearly or quite typical of it. Such representatives of the Purple Grackle intermingle and apparently interbreed with the Bronzed Grackles. The two birds, when found here, have similar notes and habits, and it is difficult to distinguish them except by the use of the gun.

140. *Quiscalus quiscula æneus* (Ridgw.).

BRONZED GRACKLE. CROW BLACKBIRD.

Abundant summer resident; occasionally seen in winter.

SEASONAL OCCURRENCE.

March 2, 1902, one seen, Glacialis, R. S. Eustis.

March 10 — November 1. (Winter.)

November 15, 1869, one seen, Watertown, W. Brewster.

NESTING DATES.

May 2 — 20.

As I have just indicated, the 'Crow Blackbirds' which frequent the Cambridge Region are nearly all Bronzed Grackles. They are somewhat irregularly or locally distributed, nesting in communities, usually among evergreens and, as a rule, in close proximity to houses or other buildings. Two of their breeding places in Cambridge, *viz.*, Norton's Woods and a belt of mixed pines and spruces just behind the house of the late Mr. Benjamin G. Smith, on Fayerweather Street, have been occupied continuously for upward of half a century. The colony which annually takes possession of the pines growing on both sides of Follen Street is of somewhat more recent origin, and the overflow from it to the Norway spruces scattered along Berkeley and Craigie Streets began, I believe, only twelve or fifteen years ago. Lowell, writing in 1868,¹ says: "Twice have the crow-blackbirds attempted a settlement in my pines [at Elmwood], and twice have the robins, who claim a right of pre-emption, so successfully played the part of border ruffians as to drive them away." Later, in a letter to Mrs. Edward Burnett, dated June 5, 1877, he adds: "The crow blackbirds, after prospecting two years, have settled in the pines and make the view from the veranda all the livelier."² This would imply that they began breeding at Elmwood in 1877, but I do not recall seeing them there regularly or in any numbers, in summer, until 1902 when they formed a colony comprising at least a dozen pairs. A somewhat smaller number formerly nested in the cluster of tall pines on the Worcester (now Smith) estate on Brattle Street. By far the largest colony which has existed anywhere in the Cambridge Region within my recollec-

¹ J. R. Lowell, My Garden Acquaintance, Atlantic Almanac for 1869, 1868, 36.

² J. R. Lowell, Letters of James Russell Lowell, edited by C. E. Norton, II, 1894, 195.

tion was established in the Fresh Pond Swamps in the spring of 1889. There were only a few birds at first, but they continued to spread and increase until by 1898 there must have been upwards of two hundred of them. Since then the number has fallen off considerably. Most of the Grackles frequenting this locality build their nests in dense thickets of alders and other low bushes, sometimes not more than a foot or two above the ground or water; others breed in company with the Redwings in beds of cattail flags well out on the open marshes. Within the past ten years I have found a few nests placed in button bushes or among cattails growing in shallow water, at Great Meadow. This habit of nesting in swamps and marshes is unquestionably of recent origin in our neighborhood, for during the earlier years of my experience the birds seldom or never resorted to very wet places excepting in autumn, when they used to assemble in large numbers at evening in the maple woods bordering on Little River, where they roosted in company with Robins and Cowbirds.

Dr. Manning K. Rand tells me that a small colony of breeding Grackles which I noticed last summer in the Public Garden, Boston, was started in 1901 by a single pair who built a nest in a thorn tree on the western side of the artificial pond, and reared their young successfully.

The Bronzed Grackle has been seen in Cambridge early in December and late in February, while, according to Mr. Shelley W. Denton, one or more birds spent practically the entire winter of 1887-1888 at Wellesley.¹

[*Megaquiscalus major* (Vieill.). BOAT-TAILED GRACKLE. It has been assumed (although the case does not seem to me clear) that Peabody had the Boat-tailed Grackle in mind when, writing in 1839, he said that "the BLACK ORIOLE, *Quiscalus baritus*, is seldom seen in this vicinity," adding "one has been obtained by Mr. Samuel Cabot, jr. in the neighborhood of Boston."² In his earliest 'Catalogue of the Birds of Massachusetts,' published in 1864,³ Dr. Allen includes the Boat-tailed Grackle as an "accidental" visitor, stating that he had "heard of one [perhaps the Cabot bird] that was killed in Cambridge a few years since" and that "Mr. E. A. Samuels tells me that a pair bred in Cambridge in 1861." Mr. Samuels in his 'Ornithology of Massachusetts,' which also appeared in 1864, gives the bird as a rare "summer visitor,"⁴ but says nothing about its having bred in Cambridge. In his subsequent work on the birds of New England, published in 1867,⁵ he does not mention the species at all. Dr. Allen, however, has referred to it again in the following terms:⁶ "I now seriously question the occurrence of this southern species in Massachusetts, or anywhere in New England, as even an accidental visitor.

¹ S. W. Denton, Ornithologist and Oölogist, XIII, 1888, 104.

² W. B. O. Peabody, Storer and Peabody, Reports on the Fishes, Reptiles and Birds of Massachusetts, 1839, 285.

³ J. A. Allen, Proceedings of the Essex Institute, IV, no. iii, 1864, 85.

⁴ E. A. Samuels, Eleventh Annual Report of the Secretary of the Massachusetts Board of Agriculture for 1863, 1864, Appendix, xxv.

⁵ E. A. Samuels, Ornithology and Oölogy of New England, 1867.

⁶ J. A. Allen, American Naturalist, III, 1870, 636.

I gave it as such in my Catalogue, but a reëxamination of the evidence has led me to my present opinion. I think the cases cited by Peabody [1] and Linsley [2] (under *Q. baritus*) as well as that of Mr. Samuels, refer only to the common Crow Blackbird or Purple Grackle." This, no doubt, was a sound conclusion, for during the thirty-five years which have elapsed since Dr. Allen reached it, no fresh evidence has come to light indicating that the Boat-tailed Grackle ever visits Massachusetts.]

[*Hesperiphona vespertina* (W. Cooper). EVENING GROSBEEK. The year 1890 will be forever memorable in the annals of New England ornithology by reason of the incursion of Evening Grosbeaks which it brought. They appeared by hundreds, if not thousands, and were taken or seen in every New England State except (apparently) Rhode Island. The records of this extraordinary eastward migration—published chiefly in the 'Ornithologist and Oölogist,' 'Forest and Stream,' and 'Auk'—are much too numerous to be cited in the present connection. They show that the interesting birds reached us from the westward by way of southern Canada and of New York State; that they were noted first at South Sudbury, Massachusetts, on January 1, and last at Henniker, New Hampshire, on May 1; that they were present in the greatest numbers during January, February and March; and that most of them, apparently, departed before April, no doubt returning whence they came. The flight extended quite to the seacoast in eastern Massachusetts and nearly to the shores of Long Island Sound in Connecticut. During the months of January, February and March, Evening Grosbeaks appeared at many different places in the eastern part of this State, usually in flocks of from five or six to ten or a dozen members each, although pairs and single birds, also, were noted. Naturally enough—and most fortunately for the interests of our local collections—the strikingly colored birds attracted much attention and many of them were shot and preserved. Although it is not known that they were detected in any part of the Cambridge Region (as limited in the present Memoir), they must have entered or at least passed over it, for they were found on every side of it and at localities no more distant from its borders than Wellesley, West Newton, West Roxbury, Crescent Beach, Lynn, Melrose and Reading.³ One of the records just mentioned has for me a peculiar and somewhat melancholy personal interest. It concerns three Evening Grosbeaks which were killed by a local gunner within a few rods of the railroad station at Crescent Beach on February 11, 1890. I heard the shots as I was approaching the station after a collecting excursion along the beach to the northward. I did not see the birds, however, until the following day, when I found them in the possession of a Boston taxidermist. This was as near as I have ever come to meeting with an Evening Grosbeak in life.

The Evening Grosbeak is not known to have visited New England prior to the winter of 1889-1890. Since then it has been met with at Wellfleet, Massachusetts, on December 5, 1903;⁴ at Beverly, Massachusetts, on March 23, 1904;⁵ at Litchfield, Connecticut, in February, 1905.⁶]

¹ W. B. O. Peabody, Storer and Peabody, Reports on the Fishes, Reptiles and Birds of Massachusetts, 1839, 285.

² J. H. Linsley, American Journal of Science and Arts, XLIV, 1843, 260.

³ The statement, on my authority, in Mr. Chapman's 'Handbook of Birds of Eastern North America' (p. 279) to the effect that the Evening Grosbeak appeared in "Cambridge" during the "winter of 1889-'90" relates to instances above mentioned of the occurrence of the species at Wellesley, West Newton and Crescent Beach—localities which Mr. Chapman and I decided at the time to include in the region to be covered by the notes that I furnished for his book.

⁴ J. T. Nichols, Auk, XXI, 1904, 81-82.

⁵ C. E. Brown, *ibid.*, 385.

⁶ J. Hutchins, Bird-Lore, VII, 1905, 173-174.

141. *Pinicola enucleator leucura* (Müll.).

PINE GROSBEAK.

Irregular winter visitor, frequently common, sometimes abundant.

SEASONAL OCCURRENCE.

October 24, 1870, one or two seen, Belmont, W. Brewster.

November 1 — March 25.

April 4, 1893, two seen, Arlington, R. Hoffmann.

April 24, 1896, one seen (Granary Burying Ground, Boston), F. H. Allen.

Although a few Pine Grosbeaks are known to breed among the mountains of northern New England, most of the birds which we see in Massachusetts unquestionably come from still further north. It is thought that they migrate southward only when the northern forests fail to yield a sufficient supply of food. Hence they visit us at irregular intervals and in varying numbers. Within the Cambridge Region they are seen oftenest in hilly pastures grown up to Virginia junipers, the berries of which seem to especially attract them. They also frequent pine and hemlock woods, and at times they come freely into densely populated parts of our cities and towns to feed on the fruit of the mountain ash, the buds of the Norway spruce, the seeds of the white ash, and the buds or fruit of various other cultivated trees. Although frequently common, they seldom occur in very great numbers, and males in fully mature plumage are not often met with. During the winter of 1892-1893, however, Pine Grosbeaks appeared in multitudes, and the rosy red males, although not *proportionately* more numerous than is usually the case, were seen almost everywhere.

The advance guard of this remarkable flight did not reach the Cambridge Region until the first week of December (1892). Before the close of the month the birds had become abundant in the cedar pastures at Arlington Heights, and on the 21st a flock of twenty-seven visited our garden, but I saw no others in Cambridge until the second week of January (1893). On the 9th of that month upward of forty-five appeared in some Norway spruces on Brattle Street, and early the following morning I found a still larger number assembling in a white ash tree which overhangs Mount Auburn Street near Elmwood. "This tree was loaded with fruit, and with snow clinging to the fruit-clusters and to every twig. In a few minutes it also supported more than a hundred Grosbeaks who distributed themselves quite evenly over every part from the drooping lower, to the upright upper, branches and began shelling out and swallowing the seeds, the

rejected wings of which, floating down in showers, soon gave the surface of the snow beneath the tree a light brownish tinge. The snow clinging to the twigs and branches was also quickly dislodged by the movements of the active, heavy birds and for the first few minutes it was incessantly flashing out in puffs like steam from a dozen different points at once. The finer particles, sifting slowly down, filled the still air and enveloped the entire tree in a veil-like mist of incredible delicacy and beauty, tinted, where the sunbeams pierced it, with rose, salmon, and orange, elsewhere of a soft dead white, — truly a fitting drapery for this winter picture, — the hardy Grosbeaks at their morning meal. They worked in silence when undisturbed and so very busily that at the end of the first hour they had actually eaten or shaken off nearly half the entire crop of seeds. Some men at work near by afterwards told me that this tree was wholly denuded of fruit by three o'clock that afternoon when the birds descended to the ground and attacked the fallen seeds, finishing them before sunset.

“The next day (January 11) the city was fairly in possession of the Grosbeaks. The sound of their piping was constantly in my ears whenever I stepped out of doors, and I rarely looked out of the window for a moment without seeing a flock sweeping past in long, undulating curves. Mr. Hoffmann writes under this date: ‘In the afternoon there was a flock of over sixty-five birds in the college yard, feeding in the snow under the ash trees. The birds on the plank walks hardly moved to let the men pass, and one actually lit on my hat as I stood beneath the large ash tree. Numbers were feeding outside the yard between the car-tracks, and on the sidewalks. Many people were watching them.’

“Fully a mile from the college, but very near the trees which the birds had stripped on the previous day, stand two large ash trees in which, shortly after eight o'clock, I found over two hundred Grosbeaks feeding. Both trees were thickly hung with seeds at this hour, but the birds had thinned the clusters on the upper branches and were fast working downward. At half-past three that afternoon, when I visited the place again with Mr. Faxon, not a seed remained on either tree. The snow beneath was completely covered with fallen seeds as with a light brown carpet, and the Grosbeaks were all there eating them. By dividing the flocks into halves and counting quickly, we got a very close approximation to the total number which we made two hundred and twenty-five. There were perhaps twenty-five to forty more scattered about on neighboring spruces and the roofs of houses.

“A part of the flock was distributed over the sidewalks for a distance of several rods, feeding on the fallen seeds. As we advanced slowly the Grosbeaks flew between or alighted on the wires of the low fence within arm's reach. One even attempted to perch on my companion's shoulder, but he moved at the critical moment and it glanced to one side. Over the fence where most of the flock

was feeding, the snow was so light and feathery that the birds sank into it deeply and wallowed rather than hopped from place to place. They appeared to enjoy this, and often fluttered their wings in such a way as to scatter the snow above and around them as bathing birds scatter drops of water. Many flying down from the trees above struck the snow with such force as to plump in quite up to their necks, when they stood thus for half a minute or more.

“During the same day a flock of fully three hundred Grosbeaks were reported from the Botanic Gardens, equally distant from each of the two flocks described above; if the birds were as numerous in other parts of the city, Cambridge must have harbored several thousands.

“The next morning the great flock at the two ash trees had decreased to a hundred birds, who were all on the ground finishing the fallen seeds. They began leaving the place in small parties while I was watching them, and at four o'clock that afternoon only about twenty-five remained.

“On the 13th, I spent most of the forenoon in the cedar-grown pastures which encircle the suburbs of Cambridge. I heard a few Grosbeaks piping but could not find them. On examining the cedar trees, I could not discover one that had more than a few scattered berries. A report from Wellesley Hills, under date of January 14, showed a similar departure of the Grosbeaks from that region, and a like explanation,—the stripped condition of the food-bearing trees.”¹

142. *Carpodacus purpureus* (Gmel.).

PURPLE FINCH.

Permanent resident, common from April to October; in winter of irregular but sometimes abundant occurrence.

NESTING DATES.

May 25 — June 8.

Up to within twenty-five or thirty years the brilliant, ecstatic song of the Purple Finch might be heard through May, June and early July in almost every part of Cambridge,—including even Cambridgeport. Many were the nests of this bird that I used to find in our Norway spruces and other ornamental ever-

¹ W. Brewster, *Auk*, 1895, XII, 245-247.

greens, but since the English Sparrows became numerous the Purple Finches have abandoned one favorite urban haunt after another, and, excepting at their seasons of migration, I seldom see or hear them now in the older settled parts of Cambridge. Throughout the Arlington-Belmont-Waltham region, they still breed commonly enough, especially in hilly pastures sprinkled with Virginia junipers among the dense foliage of which they love to conceal their nests. They also eat the berries (or rather the seeds contained in the berries) of this juniper, and when the trees fruit generously the birds often resort to them through the entire autumn and winter. At the latter season they occur somewhat irregularly and usually only sparingly, but I have known them to be present in immense numbers, and continuously, from December to March. This was the case during the winter of 1883-1884, when flocks containing upwards of fifty, or even as many as seventy-five to one hundred, Purple Finches each, were repeatedly met with in Belmont and Waverley. On January 17 of that winter I saw fully two hundred birds along the roadsides while driving from Belmont to Cambridge.

The juniper woods which once covered so much of the country lying between Mount Auburn and the Watertown Arsenal, used to attract Purple Finches at all seasons, and the birds bred there so commonly at times that on June 6, 1869, I found no less than six nests containing eggs or young within a space of half an acre. Mr. H. W. Henshaw tells me that the Purple Finch nested almost if not quite as numerously, at a somewhat earlier period, in a tract of Virginia junipers that formerly existed near the western end of Brookline Street, Cambridgeport. This has been already mentioned on page 27 of the Introduction of the present Memoir.

[*Passer domesticus* (Linn.). HOUSE SPARROW. ENGLISH SPARROW. House Sparrows became permanently established in Boston in 1869, and generally and abundantly distributed throughout Cambridge and the neighboring towns only about ten years later. At the present time there is probably no part of the Cambridge Region which they do not occasionally visit, but they are seldom seen at any season in extensive tracts of woodland and, as a rule, they breed only locally and somewhat sparingly in the more thinly settled farming districts, from which most of them remove into the towns at the near approach of winter, returning with the first opening of spring. There are outlying poultry farms, however, which they frequent at all times of the year, and in the Fresh Pond Swamps they assemble in immense numbers during December, January and February, to feed on the grain scattered along the railroad embankments by passing freight cars. The birds which inhabit the towns subsist chiefly on undigested oats obtained from horse droppings and on fragments of bread thrown out for them or for the gray squirrels. In average seasons such sources of supply, eked out by seeds and berries of various kinds, suffice to feed the hungry hordes, but during heavy and long-continued snowstorms, especially those accompanied or closely followed by low temperatures, the Sparrows sometimes perish by thousands, of cold and starvation. This has repeatedly happened within the past ten years. I have known dozens of dead or dying birds to be found in the course of a single morning, scattered about on the snow under vine-clad walls or along the city streets. After a

particularly hard winter our suburban gardens and orchards are so nearly freed from the incessant and nerve-wearying clamor of Sparrow voices, and so increasingly blessed by the sweet songs and attractive presence of various kinds of native birds, that, for a brief season, we are reminded of conditions which obtained thirty or more years ago; but the Sparrows, unfortunately, are so very prolific that in the course of a single summer they often make good whatever losses they may have suffered during the previous winter. Indeed it is only too evident that, as a species, if not always individually, they are quite equal to meeting and surviving the extreme vicissitudes of our changeable climate. Nevertheless there are reasons for believing that, they will never again become so inordinately numerous as they were ten or fifteen years ago. Apparently they have already begun to suffer from adverse influences other than those just mentioned, and at present obscure. All this was to have been expected, of course, for Nature's laws are inexorable and her balance, which, for a time, the alien birds have so violently and generally disturbed in America, must readjust itself sooner or later.

The changes in the numbers and local distribution of many of our native birds, which accompanied and, as most of us believe, directly resulted from the introduction of the House Sparrow, have been so fully discussed in the Introduction to the present Memoir that it would be superfluous to reconsider them in this connection. Nor is it the part of wisdom either to dwell unduly on a blunder that is obviously irretrievable, or to regret the past too keenly. Happily, to those of us who have reached middle life, the memory of times when the sweet calm of spring and early summer mornings was never broken by the ceaseless, insistent din of myriad Sparrow voices, and when Bluebirds, House Wrens, Swallows, Purple Finches and Song Sparrows were among our most abundant and familiar city birds, is fast fading; while to the younger generations the tradition that such conditions existed in a not as yet remote past, must of necessity seem shadowy and unreal.]

143. *Loxia curvirostra minor* (Brehm).

AMERICAN CROSSBILL. RED CROSSBILL.

Of common but irregular occurrence at all seasons.

Red Crossbills are true nomads; even in the coniferous forests of the North they have no fixed places of abode nor even any regular times for nesting. At least this is true of the northern region with which I am most familiar, namely that about Lake Umbagog, where the birds occur by thousands some years and are nearly or quite absent during others, and where I have known females with eggs or with young just out of the nest to be found at various times from February to October. In that region Crossbills seldom appear numerously, — and never, I think, settle down to breed, — excepting when their favorite food trees, the spruces and balsams, are loaded with ripening cones.

When not occupied with family cares Red Crossbills indulge their restless natures by roving widely in search of food — or change of scene — and their wanderings extend over practically the whole of southern New England. Thus

it happens that they visit eastern Massachusetts at irregular intervals and at all seasons. In the neighborhood of Cambridge, where they have been seen during every month of the year, I have repeatedly known them to appear suddenly and rather numerous in May or June, and well-marked migratory inroads sometimes take place in August, but the heaviest flights usually occur in October or November and the majority of the birds which compose them ordinarily disappear before the end of December — either passing further southward or returning whence they came. Not infrequently, however, a good many Red Crossbills remain with us through the entire winter. At all seasons their favorite haunts in the Cambridge Region are the pitch pine woods of Arlington (especially to the south and west of Arlington Heights), Belmont and Waltham, while those which once existed just to the westward of Mount Auburn were formerly much frequented. When the birds are very abundant, single individuals or small flocks are likely to occur almost anywhere. I often see them in our garden or in equally densely populated neighborhoods within the city limits, particularly when the Norway spruces are well supplied with cones.

144. *Loxia leucoptera* Gmel.

WHITE-WINGED CROSSBILL.

Irregular winter visitor, seldom numerous but occasionally abundant.

SEASONAL OCCURRENCE.

November 1, 1887, one female seen, near Cambridge, W. Brewster.

November 15 — April 1.

April 29, 1871, one ad. male¹ and two ad. females¹ taken, Belmont, W. Brewster.

June 13, 1866, one taken (Newtonville), C. J. Maynard.²

Much of what I have just said concerning the Red Crossbill will apply equally well to the White-winged species. The latter, however, has a more northerly general range than its red cousin and it breeds much less numerous in northern New England.³ These facts explain, no doubt, why we see it less frequently in Massachusetts. Its visits to the Cambridge Region do not occur

¹ Male, no. 732, females, nos. 733, 2972, collection of William Brewster.

² C. J. Maynard, *Naturalist's Guide*, 1870, 111-112.

³ It is apparently quite as irregular and erratic as the Red Crossbill in respect to its times and places of nesting. I have twice found it breeding in small numbers at Lake Umbagog in late summer and early autumn.

oftener, on an average, than once every five or six years. When there is a well-marked flight the birds usually arrive in November, and most of them remain through the winter, while a few sometimes linger into May or even early June, but I have never noted any in July or August. Ordinarily they are not numerous, and only twice within my experience have they been really abundant—in the winter of 1870–1871 and in that of 1899–1900. During the latter season they fairly flooded eastern Massachusetts, and in Cambridge or its immediate neighborhood they were seen almost daily from November to March, sometimes in flocks containing as many as forty or fifty birds each. Many of them appeared in densely populated parts of the city, and they were especially numerous in the grounds of the Harvard Observatory. They fed chiefly on the seeds of the Norway spruce which, with those of the hemlock, they seem to prefer to the seeds of any of our pines. For this reason, perhaps, they are found oftener about cultivated grounds than in the pitch pine woods where the Red Crossbills usually occur most numerously.

145. *Acanthis hornemannii exilipes* (Coues).

HOARY REDPOLL.

Rare winter visitor.

SEASONAL OCCURRENCE.

November 15, 1880, one im. male¹ taken, Cambridge, H. M. Spelman.
March 20, 1888, one seen, Waltham, W. Faxon.

146. *Acanthis linaria* (Linn.).

REDPOLL. LESSER REDPOLL.

Irregular winter visitor, often very abundant.

SEASONAL OCCURRENCE.

October 16, 1874, one seen, Waltham, W. Brewster.
October 25—April 10.
April 19, 1879, two ad. males² taken, Cambridge, W. Brewster.

¹ No. 423, collection of H. M. Spelman.

² Nos. 4489, 4490, collection of William Brewster.

147. *Acanthis linaria holbœllii* (Brehm).

HOLBÖLL'S REDPOLL.

Very rare winter visitor.

148. *Acanthis linaria rostrata* (Coues).

GREATER REDPOLL.

Irregular winter visitor, sometimes rather common.

SEASONAL OCCURRENCE.

November 25, 1889, one female¹ taken, Belmont, W. Brewster.

November 28—February 15.

Redpolls, like Crossbills and Pine Grosbeaks, are conspicuously irregular in respect to their visits to eastern Massachusetts. Sometimes they are nearly or quite absent for several successive years; again they may appear in but limited numbers and perhaps only during January or February; but ordinarily, when they come at all, they are abundant from mid-autumn to well into the following spring, the first flights arriving soon after the middle of October and the last stragglers departing early in April. From November to March they often frequent the entire Cambridge Region, where they feed chiefly on the seeds of weeds in neglected fields and on those of birches and alders in the woods, although we see them everywhere on wing, roving restlessly from place to place in flocks containing from half a dozen to more than one hundred birds each.

My only local records of Hoary Redpolls are as follows:—

On March 5, 1879, a female, now in my collection, was taken in Waltham by Messrs. E. A. and O. Bangs.

On November 15, 1880, an immature male² was killed in Cambridge by Mr. H. M. Spelman who still has the specimen in his collection.

On March 20, 1888, Mr. Walter Faxon met with a Hoary Redpoll in Waltham. Howe and Allen state³ that this bird was "taken," but Mr. Faxon writes me that it was merely "seen at close range, a very white one, but I had no gun and so it returned, I suppose, to Greenland."

¹ No. 30,285, collection of William Brewster.

² Originally recorded by W. Brewster, *Auk*, IV, 1887, 163.

³ R. H. Howe, Jr., and G. M. Allen, *Birds of Massachusetts*, 1901, 130.

I can cite but one definite record of the occurrence of Holböll's Redpoll in the Cambridge Region, that of a specimen in the collection of Dr. Arthur P. Chadbourne, which was taken in Lexington on March 10, 1890, by Mr. Walter Faxon.¹

All four of the forms above enumerated associate freely with one another, and all, no doubt, are occasionally represented in a single flock; but Holböll's Redpoll is of very rare and perhaps only accidental occurrence and the Hoary Redpoll is never common. Some of the larger flocks contain a few Greater Redpolls, but these birds do not seem to be ever very numerous in the Cambridge Region, although they were positively abundant along the Massachusetts seacoast in February, 1883. On the 19th of that month Mr. H. M. Spelman and I took thirteen specimens at Revere Beach in about two hours, and on the 22d, at Nantasket Beach, two young collectors, by a few random shots into an exceptionally large flock of Redpolls, secured forty specimens, of which six proved to be *linaria*, and thirty-four *rostrata*!

As one sees them together in winter the forms just mentioned do not differ appreciably in notes, habits or general appearance. It is true that *rostrata* and *holbœllii* may be occasionally recognized by their superior size, and *exilipes* by its bleached coloring, but Redpolls, as a rule, are so nervous and restless, and when in large flocks are so constantly in motion and so likely to take their departure at any moment, that a prompt use of the gun is usually indispensable to the positive identification of any particular bird, especially if it be a female or an immature male. As a rule, however, it is quite safe to assume that a flock of Redpolls met with in the Cambridge Region is made up chiefly, if not wholly, of representatives of the typical form, *linaria*.

[*Acanthis brewsterii* (Ridgw.). BREWSTER'S LINNET. On the morning of November 1, 1870, as I was looking for Woodcock in the Warren Run, Waltham (about half a mile to the southwestward of the Waverley Oaks), a large number of Redpolls alighted in the top of a gray birch near at hand and began picking the fruiting catkins to pieces to obtain the seeds. After watching them for a few moments I fired into the flock, killing seven birds, six of which proved to be typical *A. linaria*. The seventh lacked all traces of red on the crown and of dusky on the chin. As its general coloring was not unlike that of a Pine Linnet I supposed at the time that it was merely an aberrant example of that species, but Mr. Robert Ridgway, on examining it a year or two later, pronounced it to be a variety of the Twite or Mountain Linnet of Europe, and named it *Ægiothus (flavirostris var.) Brewsterii*.² In his 'Birds of North and Middle America,'³ where

¹ W. Brewster, H. D. Minot, Land-birds and Game-birds of New England, ed. 2, 1895, 472, Appendix.

² R. Ridgway, American Naturalist, VI, 1872, 433-434.

³ R. Ridgway, Birds of North and Middle America, pt. I. Bulletin of the United States National Museum, no. 50, 1901, 92-93.



Acanthis brewsteri (Ridgway)



he gives it as a full species under the name *Acanthis brewsterii*, he says that "possibly it is a hybrid of *Acanthis linaria* and *Spinus pinus*." I made the same suggestion more than twenty years ago,¹ and it has since derived added probability from the fact that the bird continues to be known only from the type specimen,² which is still in my collection.]

149. *Astragalinus tristis* (Linn.).

AMERICAN GOLDFINCH. GOLDFINCH. YELLOW-BIRD. THISTLE-BIRD.

Very common permanent resident.

NESTING DATES.

July 21 — 31.

If an accurate census could be taken of the Goldfinches present in the Cambridge Region during the different months of the year, the results would probably show that the birds are most numerous in autumn and early spring, and least so in summer; they are most conspicuous, however, in July and August, when they are very generally dispersed and when the males attract especial attention by their striking black and gold plumage, sweet songs and galloping love flights. Goldfinches used to breed nearly everywhere in and near Cambridge; in shade trees along our city streets; in orchards throughout the farming country; most abundantly of all in the maple woods and willow thickets which once covered so large a portion of the Fresh Pond Swamps. Within the past fifteen or twenty years they have nearly ceased to nest in localities where English Sparrows have become abundant, but in early summer a few breeding pairs still frequent that now densely populated part of Cambridge lying between Harvard Square and Mount Auburn, and broods of young birds, with their parents, continue to visit our garden in late August and early September, when the seeds of the sunflowers are ripe.

Goldfinches are chiefly confined in winter to outlying, thinly settled districts, where one may find them almost anywhere, roving about in flocks containing from eight or ten to forty or fifty birds each. At this season they often associate with Redpolls and Pine Siskins, and all three species may be sometimes seen together, feeding on the seeds of weeds in neglected fields or on those of alders and birches in deciduous woodlands. The Yellow-birds also subsist largely on the seeds of pitch pines, when these trees are well supplied with ripe cones.

¹ W. Brewster, Bulletin of the Nuttall Ornithological Club, VI, 1881, 225.

² No. 756, collection of William Brewster.

150. *Spinus pinus* (Wils.).

PINE SISKIN. PINE LINNET. PINE FINCH.

Irregular winter visitor, sometimes very abundant. One instance of breeding.

SEASONAL OCCURRENCE.

September 19, 1870, "numbers seen," Fresh Pond Swamps, W. Brewster.

October 15 — May 10.

June 8, 1875, several heard, Waverley, W. Brewster.

The Pine Linnet is usually classed among our 'irregular winter visitors,' and not improperly, for it does not occur numerously or conspicuously much oftener than do the Redpolls and Pine Grosbeaks. Nevertheless at least a few straggling Linnets may be found in the Cambridge Region nearly every autumn. The heaviest flights invariably take place at that season, occasionally beginning late in September, but usually not before the middle or last of October. The birds are sometimes present in enormous numbers during November and the first part of December, but most of them disappear before the close of the latter month, no doubt going further southward to spend the winter; a few, however, often remain with us through January and February and they are sometimes common during these months. The return flight begins in March and continues through April or even well into May. I have never known Pine Siskins to linger here later than the 8th of June (1875), but Dr. Allen has reported¹ that in 1869 "they were quite common in Cambridge till the last of June, and on two or three occasions" he "observed them during the first half of July." It is possible that some of the birds which he saw were breeding, for Dr. Brewer states² that "early in May, 1859, a pair" of Pine Finches "built their nest in the garden of Professor Benjamin Peirce, in Cambridge, Mass., near the colleges. It was found on the 9th by Mr. Frederick Ware, and already contained its full complement of four eggs, partly incubated." One of these eggs — faded, dust-stained and partly broken — is still preserved in the Museum of Comparative Zoölogy. On writing to the late Professor J. M. Peirce, son of Professor Benjamin Peirce, respecting this nest, my assistant, Mr. Walter Deane, received the following reply, dated January 31, 1904:—

¹ J. A. Allen, *American Naturalist*, III, 1870, 582.

² Baird, Brewer, and Ridgway, *History of North American Birds*, I, 1874, 482.

“Dear Mr. Deane:—My father, Professor Benjamin Peirce, lived from 1844 to 1872 in one of a line of three houses belonging to the College and in the College Yard. The only house of the three now standing *in situ* is that which is at present occupied by Professor Shaler. My father’s was the one next to that, standing on a line with it and in front of where Sever Hall now is. Two ash trees in front of the northern wing of Sever were just outside my father’s study windows. A group of oaks (now reduced, I think, to two) were at the parlor end of the house, on the south. The house was, after 1872, tenanted by Professor Lane for a while, and was later removed to Frisbie Place, where it is occupied by Professor Ames. There were many beautiful shrubs and trees on the grounds, set out by my father with his own hands. A few of them still remain, including the fine purple beech which was greatly injured by fire last year, just after the Shakespere performance under the trees.

“My brother Herbert, with whom I am staying here [Washington, D. C.] and who was a little boy in 1859, tells me that he remembers that a nest of some rare bird was found in the grounds about the house at some date of his boyhood. He thinks it was found in one of the pines or other cone-bearing trees, of which there were then many in the grounds. But he does not remember the bird being spoken of by the name which you give it. Probably he heard some other name for the same bird.

Yours truly,

J. M. PEIRCE.”

In 1883 a nest of the Pine Siskin was found in Newton, Massachusetts, by Mr. Dean W. Park, who writes me that it was placed about fifteen feet above the ground near the extremity of one of the lower branches of a small pine growing on the top of ‘Mount Ida,’ a large, rounded hill not far from the railroad station. Although this locality is not included in the Cambridge Region proper, it lies less than a mile from its southern borders at Watertown. The nest contained only two eggs. Mr. Park waited several days before disturbing them, hoping that more might be laid. He finally took them, with the nest and the female Siskin, on May 29. He tells me that the eggs were blown, and the skin of the bird prepared, by Mr. H. A. Purdie, and that all the specimens were afterwards deposited in the collection of the Newton Natural History Society.

In the Cambridge Region the Pine Linnet is almost invariably met with in flocks. Like the Redpolls and the Goldfinch, with which it sometimes associates, it is a nervous, restless bird, subject to frequent and often apparently causeless panics, and given to spending much of its time on wing roaming from place to place in search of food. It is most likely to be found in weedy fields or among alders and birches on the borders of woodland. As its name implies, it also frequents evergreen trees, especially pitch pines and Virginia junipers. In spring it often visits our garden or the immediate neighborhood to feed on the seeds and buds of the Norway spruce. About the middle of October, 1870, Mr. H. W. Henshaw and I found two or three hundred Pine Finches congregated in the large willows which shade the causeway at Rock Meadow. They were feasting on small bark lice, as we ascertained by shooting and dissecting a number of specimens.

[*Spinus spinus* (Linn.). EUROPEAN SISKIN. On August 11, 1904, I found a European Siskin in our garden where it was feeding, in company with an American Goldfinch, on the seeds of some wild sunflowers. It was a male, apparently adult, with the characteristic black areas of the throat and forehead well developed, if somewhat less extensive than in spring birds. Its plumage was bright and fresh, for it had but just completed the midsummer moult. Indeed some of the new feathers, especially those of the wings and tail, had not attained their full length. The bird was seen again in the same place — always accompanied by one or more Goldfinches — on the 13th and 17th of the month. At times it was tame and unsuspecting, allowing me to approach it closely, at others alert and wary, rising at the least alarm and dashing off over the treetops. There was nothing in either its appearance or behavior to suggest that it had ever been caged, but the chances are, of course, that it had originally escaped from captivity, although it may have reached Massachusetts by the aid of its wings alone, perhaps by way of Greenland where so very many European birds have occurred. Indeed the case is distinctly different from that of such a species as the Java Sparrow, for example. The latter has been found¹ in the Cambridge Region, but I exclude it from consideration because there seems to be no possibility that it can ever wander, unaided, so far from its natural home.]

[*Carduelis carduelis* (Linn.). EUROPEAN GOLDFINCH. The earliest record known to me of the occurrence of the European Goldfinch in the Cambridge Region is that by Dr. Allen,² who, on February 28, 1865, "saw a single male on Quincy street, Cambridge, that had probably escaped from a cage. It was feeding on the seeds of the larch and appeared fully at home."

I have a pair of mounted specimens³ of the European Goldfinch which I shot on April 21, 1875, in an old apple orchard lying just to the northward of Gray's Woods, Cambridge, near the shores of Fresh Pond. These birds were very wary and restless, leading me a long chase before they were finally secured. My notes state that their flight resembled that of the American Goldfinch, that they alighted on the topmost twigs of the trees, and that they both uttered, at frequent intervals, a loud, harsh '*ker-dac, ker-dec.*' They were in full nuptial plumage and, as I found on skinning and dissecting them, in robust physical condition, with their reproductive organs well developed. Their exceeding shyness, coupled with the fact that they bore no marks of ever having been caged, convinced me that they were wild birds, while their behavior and the development of their sexual organs suggested that they might have nested in the old orchard or its immediate neighborhood, had they been left there unmolested a few weeks longer.

Mr. Faxon tells me that he saw a European Goldfinch in Waltham on March 7, 1891, and Mr. Ralph Hoffmann has reported⁴ meeting with another in Arlington, on November 5, 1898.

The European Goldfinch has also been noted in Brookline, and there is a record⁵ of its breeding within the northern confines of the city of Worcester, in July, 1890, when a nest containing five eggs was taken, with the female parent, "by a young collector. . . . The nest was placed in an apple tree about seven feet from [the] ground." It was "made of grass" and "lined with hair, thread, feathers and vegetable fibre."

¹ J. A. Allen, *Auk*, II, 1885, 314.

² J. A. Allen, *American Naturalist*, III, 1870, 635.

³ Male, no. 128, female, no. 129, collection of William Brewster.

⁴ R. Hoffmann, *Auk*, XVI, 1899, 196.

⁵ C. K. Reed, *Ornithologist and Oölogist*, XV, 1890, 119.

151. *Passerina nivalis* (Linn.).

SNOWFLAKE. SNOW BUNTING.

Winter visitor, formerly abundant at times, still not uncommon.

SEASONAL OCCURRENCE.

October 24, 1897, flock of three or four seen, Arlington, W. Faxon.

November 1 — March 15.

March 25, 1876, one seen, Watertown, W. Brewster.

Snowflakes continue to occur abundantly in spring and autumn, and very commonly in winter, also, at many places on the seacoast of Massachusetts, but their visits to the Cambridge Region have become, of late, comparatively irregular and infrequent. In the frosty mornings of late autumn we still hear the clear flight calls of birds passing high overhead, or in winter see flocks whirling over the deserted fields like gusts of veritable *snowflakes*, but such experiences happen much less often now than they did twenty-five or thirty years ago. Up to about 1875 a winter seldom or never passed when Snow Buntings, as we always called them in those days, were not observed in or immediately about Cambridge, and they were often so numerous and familiar as to attract very general attention. They paid occasional visits to the weed patches in our garden, and I have repeatedly seen them, scattered, in small flocks, all the way from Mount Auburn to Boston, along Brattle Street and Main Street (now Massachusetts Avenue), feeding on horse droppings between the tracks of the street railway. At almost any time between December and March one was almost sure of finding them in the marshes or about the gravelly flats bordering Charles River between West Boston Bridge and Watertown. When their favorite haunts along the seacoast became deeply and uniformly covered by snow, they were sometimes driven inland in immense numbers. A notable instance of this happened in January, 1871. There had been a heavy snow-fall on the 29th of this month, and during the following day the whole region immediately about Cambridge was literally flooded with hungry Snow Buntings flying restlessly from place to place in eager, tireless quest for food. I especially remember a flock which I found feeding among some tall weeds in a neglected field not far from the Watertown Arsenal. My notes state that there were "at least a thousand birds" and that when I shot at them "they rose in a dense cloud and alighted in the tops of some neighboring oaks, clustering thickly over the ends of the branches. When

they took flight again, their wings striking against the twigs produced a crashing sound like that of a falling tree."

Within more recent years I have met with Snowflakes oftenest in the cultivated fields lying to the eastward of Belmont, and about the shores of Fresh Pond. They have not wholly ceased to visit the older settled portions of Cambridge, for on January 23, 1904, when the snow lay deep in our city streets, ten or a dozen birds were seen feeding in Prescott Street, near the Harvard Union building, by Mr. M. L. Fernald. I am also told that a few small flocks have appeared, during the past two winters, on the gravel-filled land bordering on the Back Bay Basin in Cambridgeport.

152. *Calcarius lapponicus* (Linn.).

LAPLAND LONGSPUR.

Casual visitor in early spring.

The only instance known to me of the occurrence of the Lapland Longspur in the Cambridge Region is that of a bird which was met with a few years ago near Fresh Pond by Mr. G. M. Allen, who has been kind enough to give me the following account of his observation:¹ "On March 25, 1899, while returning from a walk through the Fresh Pond region, I saw a flock of Horned Larks in the bare field about two hundred yards southeast of the railroad station, at Fresh Pond, and on the eastern side of the highway. I at once went over to examine the birds, in the hope of finding some Prairie Horned Larks or other fellow migrants in the flock. The birds were restless, though not shy, and soon flew as I neared them. After they were in the air, I noticed a smaller bird arise from the ground near me with undulating flight and make off after the Larks. As it flew, the bird uttered a harsh 't-r-r-r-r-r-p' which I at once recognized as having heard from a Longspur at Ipswich the previous fall. Following on after the bird, I was able with care to approach within about three or four yards, and watched it several minutes through a glass. It had a full black throat and upper breast, and I could also make out the crescent of rusty brown on its nape when it turned its back to me. It was much less active than the Horned Larks, and remained feeding on the ground after those nearest it had moved off a short distance to where the main body of the flock was feed-

¹ It was reported very briefly by Howe and Allen in their 'Birds of Massachusetts,' 1901, 127.

ing. I followed the bird for some minutes, and several times heard its rattle. At last it flew off with the Larks and I did not again go after the birds. So far as I could determine, all the Larks were *O. alpestris*."

The only locality in New England which appears to attract Lapland Longspurs regularly and in any numbers is that represented by a few square miles of open country bordering the seacoast of Massachusetts near the town of Ipswich. Here the birds are always common and sometimes positively abundant in late autumn, while a few often linger well into and perhaps through the winter. They frequent treeless, barren places, chiefly the sand dunes and rounded grassy hills lying near the mouths of the Ipswich and Essex Rivers.

153. *Poœcetes gramineus* (Gmel.).

VESPER SPARROW. GRASS FINCH. BAY-WINGED BUNTING.

Common summer resident.

SEASONAL OCCURRENCE.

March 27, 1904, one seen, singing, Belmont, R. Hoffmann.

April 5—October 25.

December 25, 1889, one male¹ taken, Somerville, W. W. Brown.

NESTING DATES.

May 10—25.

I remember when Vesper Sparrows bred sparingly in the fields bordering Vassall and Fresh Pond Lanes, but during the past twenty years or more they have been seen in these localities only at their seasons of migration. I fear they have also nearly or quite deserted the hills immediately to the westward of Fresh Pond where they used to be rather common in summer. They may still be found from April to October a little further inland, wherever the local conditions suit their somewhat fastidious tastes. As a rule they avoid highly cultivated land and prefer barren, sandy fields or rocky hill pastures, where the grass is sparse and short. I have met with them oftenest of late years along the high ridge that extends from Arlington to Waverley and in the region lying to the north and west of Rock Meadow.

¹ No. 29,611, collection of William Brewster.

154. *Passerculus princeps* Maynard.

IPSWICH SPARROW.

Rare transient visitor.

Few of our so-called 'shore birds' compare with the Ipswich Sparrow in respect to the tenacity with which it clings to the seacoast. In March, when it is passing northward on its way to Sable Island (its only known breeding ground), and during the southward migration in October and November, it appears regularly, and at times really numerous, on the sand dunes and beach ridges near Ipswich, Swampscott, Revere, Nantasket, and other places directly on the coast of Massachusetts, but it rarely wanders inland, even for distances of only a few miles. It has been twice taken in the Cambridge Region, however: by Mr. Charles R. Lamb in the Fresh Pond Swamps, on October 20, 1883, and by Dr. A. H. Tuttle on the northwestern side of the Back Bay Basin in Cambridgeport, on October 23, 1905. Mr. Lamb tells me that his specimen (a male, now in my collection)¹ was found in company with some Savanna Sparrows in the marsh which borders the western side of the Glacialis, where it alighted among the branches of a small, isolated oak, after having been twice flushed from the meadow grass. Dr. Tuttle's bird (a mounted specimen which I have recently examined and which also appears to be a male, although the sex was not determined by dissection) was killed about three hundred yards to the westward of the Cambridge end of Harvard Bridge. Here a wide expanse of level, gravelly land, created by filling only a few years since and as yet unoccupied by buildings, has become covered by beds of rank weeds which, as I am informed by Dr. Tuttle, afford food and shelter in autumn for many migratory Fringilline birds. Of these the Savanna Sparrow, the Song Sparrow, and the Junco occur most frequently and numerous. There were several Savanna Sparrows with the Ipswich Sparrow when the latter was shot.

At a meeting of the Nuttall Ornithological Club held on April 21, 1890, Mr. C. F. Batchelder reported that Mr. W. A. Jeffries (whose reliability in respect to such an observation is not open to question) had seen and fully identified an Ipswich Sparrow about ten days previously, in Beacon Street, Boston. Mr. Jeffries does not now remember this experience very distinctly, but he thinks that the bird was probably not actually in Beacon Street, but in the passageway along the river, behind the line of houses next the water.

¹ No. 25,117, collection of William Brewster.

155. *Passerculus sandwichensis savanna* (Wils.).

SAVANNA SPARROW.

Abundant transient visitor in spring and autumn; formerly a locally common summer resident, also, but now seldom seen during the breeding season.

SEASONAL OCCURRENCE.

March 29, 1889, one seen, Lower Mystic Pond, W. Faxon.

April 5 — November 1.

December 4, 1889, one male¹ taken, Somerville, W. W. Brown.

NESTING DATES.

May 21 — 25.

On May 21, 1866, I took a nest of the Savanna Sparrow, containing four eggs,² in the fields bordering Vassall Lane, and during that same season another, with three eggs, in the meadows between Hill's Crossing and Belmont. The birds continued to breed rather commonly in both places for fifteen or twenty years after the date just mentioned. Why they finally ceased to do so is difficult to explain, for, at the time of their disappearance, neither locality had undergone any material change. They used to nest regularly throughout the salt marshes along Charles River, and really abundantly in those which formerly extended from Whittemore Point to the old Magazine in Cambridgeport, as well as in the Longfellow Marshes. In the latter, just behind the Cambridge Hospital, I found several broods of young, only just able to fly, as recently as July, 1898. Since then almost the entire surface of these marshes has been drained and remodelled by the Park Commissioners, and, as nearly as I can ascertain, the Savanna Sparrows have nearly if not quite ceased to breed there. Nor can I learn of any other locality in the immediate neighborhood of Cambridge which the birds still inhabit regularly in summer.

Savanna Sparrows continue to occur rather abundantly in the more open and thinly settled portions of the Cambridge Region at their seasons of migration when, as at all other times, they are given to haunting wet or very moist places covered with long grass. We also find them — often in company with Song

¹No. 29,610, collection of William Brewster.

²Two of these eggs, with nest, no. 969, in collection of William Brewster.

or Vesper Sparrows — in weedy upland fields and occasionally even in apple orchards. If I am not mistaken in my recollection (which, however, is not confirmed by anything in my note-books) a few birds used to appear quite regularly in April in a weed-grown garden at the rear of our house, but I have seen none there — nor indeed anywhere in the immediate neighborhood — for thirty years or more. Of late they have been found rather commonly in autumn — as I have just mentioned in a passage relating to the Ipswich Sparrow — in Cambridgeport, where they frequent certain tracts of made land which have replaced the salt marshes where they bred so numerously in the days of my youth.

I have a Savanna Sparrow which Mr. Wilmot W. Brown took in Somerville on December 4, 1889, a date sufficiently late to suggest that the species may occasionally pass the winter in the Cambridge region. It has been noted in midwinter at two localities (Ipswich and Sandwich) on the seacoast of Massachusetts.

156. *Coturniculus savannarum passerinus* (Wils.).

GRASSHOPPER SPARROW. YELLOW-WINGED SPARROW.

Rather rare summer resident.

SEASONAL OCCURRENCE.

May 16, 1890, one heard, Waltham, W. Faxon.

May 16 — September 1.

December 6, 1892, one taken, Arlington, H. G. Nichols.

The inconspicuous little Yellow-winged Sparrow was first detected in the Cambridge Region by Mr. C. J. Maynard who, in 1867 and for a few years later, met with one or two birds each summer on the north side of Charles River a little to the eastward of the Gore estate in Waltham and nearly on the dividing line between that town and Watertown. On June 12, 1878, I heard several males singing, and shot a female, on a barren, wind-swept hilltop in Belmont not far from Rock Meadow. Mr. Walter Faxon has since found the species passing the summer here as well as at two localities in Waltham and two or three in Lexington, while I have evidence which indicates that it has nested for more than thirty years past in some extensive sandy fields lying just to the westward of Hobbs Brook Reservoir in Lincoln. No one of these stations appears to be ever occupied by more than one or two breeding pairs.

The only instance known to me of the occurrence of the Yellow-winged Sparrow in the city of Cambridge is that of a male which I observed on June 18, 1898, near Gray's Woods, at the point of intersection of Fresh Pond Lane and Huron Avenue. This bird was in full song and apparently settled for the season in a neglected corner of Kingsley Park where, among the weeds and scanty grass that covered the half acre or less of open ground which it frequented, its mate was perhaps brooding her eggs or young.

Although the Grasshopper Sparrow is seldom noticed in the Cambridge Region after the close of summer, a few birds probably remain with us through the autumn; one was taken in Arlington on December 6, 1892, by the late Mr. Howard Gardner Nichols.

Nuttall's brief account of this species, which he calls the "Savanna Finch, or Yellow-shouldered Sparrow," contains the following passage which relates apparently to the neighborhood of Cambridge but possibly to that of Philadelphia: "They are occasionally seen in the gardens of this vicinity on their way apparently to some other breeding station. On these occasions they perch in sheltered trees in pairs, and sing in an agreeable voice somewhat like that of the Purple Finch, though less vigorously."¹ It is evident that the birds thus referred to could not have been Yellow-winged Sparrows. Lincoln's Sparrow sings at times very like a Purple Finch, if less loudly and vigorously, but during its migratory visits to eastern Massachusetts it is usually met with singly and on or very near the ground, although I have known it to perch in low trees.

157. *Ammodramus henslowii* (Aud.).

HENSLOW'S SPARROW.

Summer resident, of very rare and probably only casual occurrence.

On June 21, 1871, I found a pair of Henslow's Sparrows apparently settled for the season, and almost certainly breeding, near the present point of intersection of Huron and Lake View Avenues, Cambridge. There were then, of course, neither streets nor houses in this now densely populated neighborhood. The birds had taken possession of an extensive mowing field grown up to tall herd's-grass and bordered on one side by an apple orchard. The land was sloping and

¹T. Nuttall, *Manual of the Ornithology of the United States and of Canada. The Land Birds*, 1832, 494.

well drained, although near the center of the field there was a shallow depression, perfectly dry at the time, but filled with rank, coarse grasses such as grow in marshy places. I started the female in this hollow, and the favorite singing station of the male was not far from it among the tops of some tall weeds. Revisiting the place on the following day, I shot the male¹ after making a long and fruitless search for the nest. The female was not seen on this second occasion.

I have another specimen² of Henslow's Sparrow, also a male, which I killed on May 13, 1872, in Rock Meadow. This bird was in full song, but the date of its capture is too early to afford any evidence that it would have passed the summer in the locality where I found it.

These two instances are all that I can give of the occurrence of Henslow's Sparrow in the Cambridge Region. Mr. C. J. Maynard shot two males on May 10, 1867, at Newtonville, and for the past thirty years or more I have found the species breeding regularly, in small numbers, at several localities in Sudbury, Lincoln and Concord.

158. *Ammodramus caudacutus* (Gmel.).

SHARP-TAILED SPARROW. SHARP-TAILED FINCH.

Formerly a common summer resident of one locality which has been long since totally abandoned.

SEASONAL OCCURRENCE.

May 19, 1891, six seen, two males taken (Revere Beach), W. Brewster.

October 9, 1871, one female³ taken, Cambridgeport, W. Brewster.

NESTING DATES.

June 12 — 30, formerly.

In his 'Rarer Birds of Massachusetts' Dr. J. A. Allen, writing of the Sharp-tailed Finch, says: "Some half a dozen nests and as many pairs of the birds were obtained the present year [1869], by Mr. H. W. Henshaw in the Charles

¹ No. 878, collection of William Brewster.

² No. 877, collection of William Brewster.

³ No. 889, collection of William Brewster.

River marshes in Cambridge.”¹ Dr. Brewer, referring to the same instance, states that “quite a number” of nests were found, and he further asserts, apparently wholly on the strength of the evidence just quoted, that “in the marshes of Charles River, near Boston, this species is occasionally common in the breeding-season.”² Mr. Henshaw, whom I have recently questioned on the subject, has preserved no written notes respecting his experience, but he is positive that he did not meet with the Sharp-tails in summer either before or after 1869, and almost equally so that he took only three or four birds and but one nest containing a full set of eggs, although he dimly recalls finding several other nests, most of which were empty and apparently deserted. He thinks, however, that during the year just mentioned the colony must have comprised, before it was molested, at least six or eight pairs of breeding birds. They were confined to Whittemore Point, Cambridgeport, a marshy promontory, five or six acres in extent, which jutted out into the bay not far from the present location of the building known as Riverbank Court. The marshes on this promontory, unlike those at its rear, were never flooded, save by exceptionally high tides, but they contained a number of shallow pools and ditches filled with brackish water and bordered by rank, matted vegetation in which the Sharp-tails were given to concealing themselves and their nests. All this I remember with perfect distinctness, for I often accompanied Mr. Henshaw on excursions to Whittemore Point in 1869 and 1870. During a visit made on June 29 of the former year we flushed several adult Sharp-tailed Sparrows, and a fledgling, just out of the nest but unable to fly, was found hiding in the grass at the edge of one of the pools. I still have the skin of a breeding female³ shot on this occasion. No doubt the Sharp-tails had frequented the place in summer for many years before we became aware of their presence. It is also possible, if less probable, that they continued to return for several years later. The colony, although certainly much disturbed by us in 1869, was by no means wholly broken up that season, and the ground which it occupied remained practically unchanged for many years afterwards. Neither Mr. Henshaw nor I can remember looking for the birds in summer after 1869. Whittemore Point was, I believe, the only locality in the Cambridge Region where the Sharp-tailed Sparrow has been found nesting. I doubt if it ever bred in the marshes higher up the river (that is, above Brookline Bridge), for they were not perfectly suited to its somewhat peculiar requirements. But it may well have maintained in former times more than one flourishing colony about the shores of the Back Bay in Brookline and per-

¹ J. A. Allen, *American Naturalist*, III, 1870, 634.

² Baird, Brewer, and Ridgway, *History of North American Birds*, I, 1874, 558.

³ No. 893, collection of William Brewster.

haps, also, in Boston, for before this portion of the bay was obliterated by filling, it was bordered in many places by salt marshes, some of which probably afforded ground similar to that on Whittemore Point.

Since 1869 I have met with breeding Sharp-tails at no locality nearer Cambridge than Revere. Here on June 19, 1890, Mr. Walter Faxon and I found at least twenty-five pairs of the birds and no less than five of their nests. The colony was mainly confined to a few acres of rather dry marsh hemmed in on two sides by higher ground and crossed by a chain of small, brackish pools narrowly fringed by tall grass, chiefly the growth of previous years. The nests were hidden in this vegetation. One of them contained young nearly old enough to fly, the others, eggs in various stages of incubation.

159. *Ammodramus nelsoni* (Allen).

NELSON'S SPARROW. NELSON'S SHARP-TAILED FINCH.

Formerly an uncommon transient visitor in autumn.

SEASONAL OCCURRENCE.

October 7, 1871, two taken, Cambridgeport, H. W. Henshaw.

October 14, 1874, one im. male¹ taken, Fresh Pond Marshes, W. Brewster.

Mr. Henshaw has reported² taking three specimens of Nelson's Sparrow in the Cambridgeport Marshes. One of these birds (killed on May 31, 1871) has been since referred to *subvirgatus* by Dr. J. Dwight, Jr.,³ but the original identification of the other two (collected on October 7, 1871, and probably now in the British Museum) remains, I believe, unchallenged. I have two examples of Nelson's Sparrow which I shot in Cambridge, one⁴ at Whittemore Point, Cambridgeport, on October 9, 1871, the other in the Fresh Pond Marshes between the Glacialis and Little River, on October 14, 1874. Neither of these specimens is a typical representative of *nelsoni*, but the Cambridgeport one has been identified with that race by Dr. Dwight, and the other bird seems to me to be much nearer to it than to *subvirgatus*.

¹ No. 892, collection of William Brewster.

² H. W. Henshaw, *Auk*, III, 1886, 486.

³ J. Dwight, Jr., *Auk*, IV, 1887, 236.

⁴ No. 2824, collection of William Brewster.

160. *Ammodramus nelsoni subvirgatus* (Dwight).

ACADIAN SHARP-TAILED SPARROW. ACADIAN SHARP-TAILED FINCH.

Formerly a transient visitor, abundant in autumn.

SEASONAL OCCURRENCE.

May 31, 1871, one taken, Cambridge, H. W. Henshaw.¹

October 5, 1870, ten shot, numbers seen, Cambridgeport, H. W. Henshaw.

October 9, 1871, two males² and one female² taken, Cambridgeport, W. Brewster.

Acadian Sharp-tailed Sparrows used to be found regularly in autumn and occasionally in spring, in the Cambridgeport Marshes. They were sometimes seen on Whittemore Point, but much oftener and more numerous in the beds of tall sedge which fringed the shores and tidal creeks of the lower, wetter marshes a little further to the westward. Here they occurred so abundantly at times—especially during easterly storms—that forty or fifty birds could often be started in a few hours, while on one occasion (October 7, 1871) Mr. H. W. Henshaw saw upwards of two hundred in the course of a single day. Without question they also frequented the Longfellow Marshes, but I cannot remember that we ever looked for them there at the proper season.

During the years (1868–1876) when I used to devote a good deal of time to hunting Wilson's Snipe in the region about Fresh Pond, my dogs occasionally flushed Sharp-tailed Finches in autumn in the marshes lying to the northward of the Glacialis, and on October 20, 1874, I found one in a narrow strip of meadow surrounded by thickets in the Brickyard Swamp. There can be little doubt that some of these birds were Acadian Sharp-tails, but the only specimen that I killed and preserved is referable to the closely allied form *nelsoni*, as I have just stated in another connection.

On June 1, 1869, I shot a Sharp-tail on a grassy floating island that formerly existed in the little pond immediately at the rear of Mount Auburn. This specimen,³ which is still in my possession, is colored and marked precisely like typical representatives of *subvirgatus*, but in respect to its general size, and to the size and shape of its bill, it is an ultra-typical example of *caudacutus*. As the place where it was killed was unsuited for a breeding ground, the bird must have

¹ H. W. Henshaw, *Auk*, IV, 1887, 236.

² Males, nos. 2825, 2826, female, no. 890, collection of William Brewster.

³ No. 30,807, collection of William Brewster.

been either a migrant on its way northward or a straggler from the Charles River Marshes, distant less than a quarter of a mile to the south and east.

Although I have no recent records of the local occurrence of any form of the Sharp-tailed Sparrow, it is probable that both *subvirgatus* and *nelsoni* still visit the Cambridge Region at their seasons of migration, and possible that true *caudacutus* may also do so, at least casually.

161. *Zonotrichia leucophrys* (Forst.).

WHITE-CROWNED SPARROW.

Transient visitor in spring and autumn, usually rather rare but sometimes not uncommon.

SEASONAL OCCURRENCE.

May 9, 1880, one ad. male¹ taken, Belmont, H. M. Spelman.

May 12—22.

May 23, 1892, one ad. female² taken, Belmont, W. Faxon.

September 28, 1897, one seen, Arlington, W. Faxon.

October 1—20.

November 5, 1898, one im. male³ taken, Arlington, W. Faxon.⁴

The White-crowned Sparrow occurs quite regularly during migration, but seldom at all numerous. Indeed no single observer, however diligent, is likely to meet with more than three or four of the beautiful birds in the course of any one season. In May, 1900, however, they were really common, for several days in succession, in and about Cambridge.

Like its near relative the White-throated Sparrow, with which it sometimes associates, the present species is fond of haunting thickets, preferring those which border weed-grown, upland fields and retired country roads or lanes. I have found it occasionally in the Fresh Pond Swamps and repeatedly in our garden, while it has often been seen in the Botanic Garden. Although ordinarily tame and confiding, it is easily startled and when thoroughly alarmed is difficult to follow, for it displays remarkable adroitness at skulking in brush heaps and along ivy-covered stone walls. In May we occasionally hear its low, plaintive

¹ No. 575, collection of H. M. Spelman.

² No. 44,461, collection of William Brewster.

³ No. 48,308, collection of William Brewster.

⁴ R. Hoffmann, Auk, XVI, 1899, 196.

song, especially during rainy weather or very early in the morning; even at this season, however, the bird maintains, for the most part, a dignified silence quite in keeping with its aristocratic bearing and chaste plumage.

162. *Zonotrichia albicollis* (Gmel.).

WHITE-THROATED SPARROW. PEABODY-BIRD.

Very common transient visitor in spring and autumn; of late years a winter resident, also, in small numbers, in a few localities.

SEASONAL OCCURRENCE.

April 17, 1892, one seen, Arlington, W. Faxon.

April 25 — May 15.

May 25, 1871, one seen, Cambridge, W. Brewster.

September 12, 1894, one seen, Cambridge Region, W. Faxon.

October 1—November 10. (Winter.)

The White-throated Sparrow is one of the commonest and most conspicuous of the migratory birds which visit us in spring and autumn. It is seen or heard almost as frequently in city parks and gardens as in thinly settled localities, but although bold and confiding by nature it seldom ventures far from clusters or belts of shrubbery, into which it quickly retreats when alarmed or pursued and in which it spends much of its time scratching for food among the fallen leaves. As a rule it shuns the more extensive woodlands of the Cambridge Region, although it loves to haunt dense, tangled thickets along the courses of brooks, on the edges of swamps, and around the outskirts of weedy fields. Its song, when heard here, usually lacks much of the wild, ringing quality which characterizes it at the height of the breeding season.

I have no record of the local occurrence of the White-throated Sparrow in winter prior to December 11, 1869, when I saw a bird in a garden on Dana Hill, Cambridgeport. In 1882 Mr. Charles R. Lamb killed one on January 7, and another on March 7, in some briery thickets on the borders of the Charles River Marshes close to the Cambridge Cemetery. Since 1889 the species has been found sparingly nearly every winter, from December to March, in the Fresh Pond Swamps and about the Lower Mystic Pond. It is seen occasionally in sheltered places well within the suburbs of Cambridge. In the winter of 1898-1899 two birds frequented our garden during December and January, and one of them remained through February and March.

163. *Spizella monticola* (Gmel.).

TREE SPARROW.

Abundant transient visitor in spring and autumn and common winter resident.

SEASONAL OCCURRENCE.

October 20, 1892, two seen, Arlington, W. Faxon.

October 25 — April 20.

May 7, 1893, two seen, East Lexington, W. Faxon.

The first Tree Sparrows coming from the north in autumn appear soon after the middle of October or about when the last Chipping Sparrows are preparing to depart. The two species are so similar in general appearance as to be often mistaken for one another, but the Tree Sparrow may be easily distinguished by its longer tail and more conspicuous buffy white wing bars. Although a common winter resident of the Cambridge Region, it is invariably most abundant when the migratory flights are passing southward in late autumn and returning to their summer homes at the far North in early spring. On these occasions the birds sometimes occur in very great numbers, especially about neglected fields and gardens where they eat the seeds of such weeds as the chickory and the Roman wormwood. In winter when the country is deeply covered with snow, they resort to swampy runs and the borders of woodland, where they subsist largely on the seeds of alders and birches.

Tree Sparrows associate freely in spring with Fox Sparrows, Song Sparrows and Juncos. When all four birds are assembled in numbers about some weedy field, with Bluebirds, Redwings, and perhaps, also, Meadowlarks, near at hand, the scene presented is one of great animation and exceeding interest. He who lingers to watch and enjoy it will be treated, at least in the early morning, to frequent outbursts of singing so rare and tender in quality that he is not likely ever to forget them. Of the voices which unite to form these delightful concerts of earliest spring that of the Tree Sparrow is among the sweetest and best.

I used to see Tree Sparrows rather frequently in our garden, but within the past fifteen years they have nearly ceased to visit the older settled parts of Cambridge, although they still occur very commonly in the Fresh Pond Swamps. Further to the westward, in Belmont, Arlington and Waltham, they reappear, season after season, in undiminished numbers, wherever the English Sparrows do not monopolize the annual supply of weed seeds.

164. *Spizella socialis* (Wils.).

CHIPPING SPARROW. CHIPPY.

Abundant summer resident.

SEASONAL OCCURRENCE.

March 26, 1903, one seen, Belmont, R. Hoffmann.

April 12 — October 25.

December 31, 1869, one seen, Watertown, W. Brewster.

NESTING DATES.

May 12 — 28.

The familiar Chippy is one of the commonest and most widely distributed of our smaller birds. It frequents almost every part of the Cambridge Region excepting the wetter swamps and marshes, which it seldom visits except in autumn, and the more extensive tracts of upland woods, in which it is not often seen at any season. It is most numerously represented at the present time in our farming districts, where apple orchards are its favorite haunts in summer, and weed-grown fields in autumn. It breeds sparingly about the outskirts of evergreen woods, and quite commonly in cedar-grown pastures, such as those scattered along the crest and sides of the elevated ridge that extends from Arlington to Waverley.

Before the English Sparrows came, the Chippy was abundant throughout most of Cambridge, but during the past twenty or twenty-five years it has been steadily if slowly diminishing in numbers there. Of late it has nearly or quite disappeared from the greater part of Cambridgeport, and it now occurs only irregularly and very sparingly in the somewhat less densely populated regions lying immediately to the north and northwest of Harvard Square and Norton's Woods. I continue to see the trustful little birds in the grounds about our house and even to find their neat, hair-lined nests in our lilacs and ornamental evergreens, but I fear that such experiences are destined to be soon numbered among those of the past, for the Chippy is evidently on the eve of deserting our neighborhood. That its gradual withdrawal from Cambridge has resulted chiefly if not wholly from the introduction of the House Sparrows, admits of no reasonable doubt, for the Chippy is, by nature, one of the most contented, phlegmatic and confiding of birds and it clings with exceptional tenacity to long established haunts, especially those also much frequented by man.

165. *Spizella breweri* Cass.

BREWER'S SPARROW.

Casual visitor in autumn.

The record,¹ made many years ago, of the capture of a Brewer's Sparrow in Watertown remains unique, not only for Massachusetts but also for New England. The bird,² which is still preserved in my collection, was taken on December 15, 1873, by my friend, Mr. William Stone, who found it perched in an apple tree near the borders of a little pond at the rear of Mount Auburn. It fell, when shot, on a pile of rubbish, where Mr. Stone looked for it vainly for some time; indeed, he was about to abandon the search when he happened to see the tip of its tail projecting from a crevice between two stones. Thus by the merest chance was the fact established that Brewer's Sparrow has occurred in New England. Its true home is the western United States where it ranges from the Rocky Mountains to the interior valleys of California and northward into British Columbia.

166. *Spizella pusilla* (Wils.).

FIELD SPARROW. HUCKLEBERRY-BIRD.

Common summer resident; of casual occurrence in winter.

SEASONAL OCCURRENCE.

March 30, 1905, two males singing, Lexington, W. Faxon.

April 12 — November 1. (Winter.)

November 13, 1898, one seen, Belmont, W. Faxon.

NESTING DATES.

May 25 — June 5.

Although closely related to the Chippy, the Field Sparrow is a bird of

¹ W. Brewster, *American Naturalist*, VIII, 1874, 366-367.

² No. 968, collection of William Brewster.

widely different tastes and habits. It shuns the haunts of man and frequents remote, solitary places where its wild, ringing song is in perfect keeping with the immediate surroundings. At its seasons of migration I have occasionally seen it in Cambridge — once (on April 11, 1875) in our garden — but I have never known it to breed within the city limits nor, indeed, anywhere in the more eastern parts of Belmont or of Watertown. Along the elevated ridge that extends from Arlington to Waverley and in the hill country still further to the westward it has always been common as far back as my recollection goes. Its favorite haunts in this region are rocky pastures studded with clusters of red cedars and barberry bushes and thickly sprinkled with patches of ground junipers. These 'cedar pastures,' as we term them, are among the most beautiful and picturesque places which our region affords, and to those who really care for them they offer, perhaps, no attraction greater than that of the song of the Field Sparrow. Many of the birds linger here through the summer and autumn, but at the latter season they also frequent weedy fields and brush-grown roadsides in company with Chipping, Vesper, and Song Sparrows. All four species sometimes nest in close proximity to one another in 'cedar pastures' which contain wide stretches of open ground and also bushy hollows.

Mr. Richard S. Eustis has reported¹ finding a Field Sparrow at Arlington Heights on February 14, 1902,² and there is an extralimital record by Mr. Bradford Torrey³ of another which was seen in Wellesley on December 19, 1892, and again, in the same place, on January 8, 1893.

167. *Junco hyemalis* (Linn.).

SLATE-COLORED JUNCO. JUNCO. SNOWBIRD.

Abundant transient visitor, and rather common winter resident.

SEASONAL OCCURRENCE.

September 12, 1870, "arrived," Fresh Pond Swamps, W. Brewster.

September 20 — April 20.

May 5, 1893, flock of eight seen, Arlington, W. Faxon.

Juncos, in flocks containing from six or eight to fifteen or twenty birds

¹ R. S. Eustis, *Auk*, XIX, 1902, 204.

² This bird was again seen by Mr. Eustis in the same place on March 14 of the same year.

³ B. Torrey, *Auk*, X, 1893, 205.

each, may always be found in winter in the Cambridge Region. At this season I used to see them in our garden and also in many other parts of Cambridge, but most numerously and frequently by far in the country immediately to the westward of Mount Auburn. I doubt if this once favored resort is now regularly frequented by them in winter, and I have long since ceased to note them in the city of Cambridge excepting during migration. In the Arlington-Belmont-Waltham district, however, they continue to occur at several localities from December to March. When the weather is cold and windy they spend most of their time in evergreen woods and thickets, but during mild, calm days they often venture out into fields and orchards. At the height of the migrations in November and March they are found practically everywhere, but oftenest and in the greatest numbers about weedy fields, in apple and pear orchards, and along brush-grown lanes and roadsides. So very abundant are they at times, that I have known upwards of one hundred birds to be started in a single field, and several hundreds to be seen during a morning walk or drive. In early spring the males sing freely, giving the simple, monotonous trill that they use in summer, and, in addition, a variety of low notes which are seldom or never heard during the breeding season. Some of these are thin and insignificant, and others harsh or chattering, but very many are liquid and decidedly musical. When a number of Juncos are mingling their voices in this medley singing the effect is very pleasing.

During February, 1895, Juncos suffered greatly from cold and starvation at their winter haunts in the Middle and Southern States, and since then they have not revisited Massachusetts in anything like their former numbers.

168. *Junco montanus* Ridgw.

MONTANA JUNCO.

Casual visitor in early spring; only one instance of occurrence.

On March 25, 1874, while crossing the corner of a field in Watertown, not far to the westward of Mount Auburn, I started a large flock of Juncos from a patch of weeds. They took refuge among some bushes which fringed an old stone wall and, as I advanced, flitted on ahead after the manner of most Sparrows when pursued. Happening to want a specimen, I selected a bird which perched for a moment on the top of the wall, and shot it. On picking it up I was struck by the exceptionally dark coloring of its head and the unusual depth and extent

of the pinkish suffusion on its sides. Some time afterwards I identified and recorded¹ it as an example of the Oregon Junco (*Junco oregonus*). Since then *Junco oregonus* has been subdivided into several geographical forms and the names of no less than three of these have been successively used for the Watertown specimen.² When I next had occasion to mention this bird in print I called it — for reasons quite conclusive at the time — *Junco hyemalis shufeldti*.³ About the same time it was also referred to⁴ under this name in the A. O. U. Check-List. Two years later the A. O. U. Committee decided that *Junco hyemalis connectens* Coues and *Junco hyemalis shufeldti* Coale were one and the same bird and that as the former name had priority it should replace the name *shufeldti*.⁵

Still more recently Mr. Ridgway has cited *connectens* as a synonym of *shufeldti*,⁶ and under the name *Junco montanus* has described a bird closely similar to Shufeldt's Junco, but lighter and grayer in coloring, and having a somewhat more easterly breeding range.⁷ This form has been since accepted as a full species by the A. O. U. Committee. To it Mr. Ridgway refers most of the "supposed records from east of the Missouri River" of Juncos which have been called *oregonus* or *shufeldti*. He thinks, however, that "some" and "possibly all" of these birds (excepting one taken at Laurel, Maryland) "may be referable to *J. oregonus shufeldti*." At the time of expressing this opinion Mr. Ridgway had not seen my Watertown specimen; I have recently sent it to him for examination and he writes me (under date of December 10, 1905) that he "would unhesitatingly label" it *Junco montanus*. While I accept this determination, I cannot help thinking that the matter has not as yet been fully and finally settled. The Montana Junco is certainly very closely related to Shufeldt's Junco, and I believe that when more specimens have been examined (*montanus* is represented by comparatively few at present) the two forms will prove to intergrade and hence to be, at the most, but subspecifically distinct. The Watertown bird is referred to in the Introduction to the present Memoir under its former name, Shufeldt's Junco.

¹ W. Brewster, Bulletin of the Nuttall Ornithological Club, I, 1876, 19.

² Female, no. 930, collection of William Brewster.

³ W. Brewster, H. D. Minot, Land-birds and Game-birds of New England, ed. 2, 1895, 234, footnote.

⁴ American Ornithologists' Union Committee, Check-List of North American Birds, ed. 2, 1895, 235.

⁵ American Ornithologists' Union Committee, Auk, XIV, 1897, 128.

⁶ R. Ridgway, Birds of North and Middle America, pt. I. Bulletin of the United States National Museum, no. 50, 1901, 287.

⁷ *Ibid.*, 289-291.

169. *Melospiza cinerea melodia* (Wils.).

SONG SPARROW. GROUND SPARROW.

Exceedingly abundant transient visitor; very common summer resident; locally common winter resident.

SEASONAL OCCURRENCE.

March 10—November 1. (Winter.)

NESTING DATES.

April 30—May 15.

At its seasons of migration the Song Sparrow is decidedly the most numerously represented member of its family. For days in succession, late in March and early in April, it literally floods the entire Cambridge Region. Like the Junco and Tree Sparrow it is found abundantly in or near weedy fields; unlike them it never moves from place to place in large flocks, although the birds often congregate very numerously where food is plenty. At times they are so generally and evenly distributed over the open country that nearly every cluster of bushes and patch of long grass in our fields and meadows harbors one or more birds. They even occur sparingly in dry, second-growth woods, and sometimes rather commonly in thickets of young pines or cedars on high land. Fully nine tenths of all the Song Sparrows seen at this season go further north to pass the summer, but enough remain to fully populate all the localities which are suitable for breeding haunts. These at the present time include the Fresh Pond Swamps and most of the farming country of Belmont, Arlington, Lexington and Waltham, as well as portions of Watertown. In all these towns the birds continue to nest sparingly in evergreen trees or hedges near houses and in long grass or shrubbery along old walls; rather commonly in pastures sprinkled with cedars and barberry bushes; most numerously of all in thickets growing about the edges of meadows and on the banks of brooks.

Like so many of our smaller native birds the Song Sparrow has learned to shun localities where House Sparrows have become inordinately numerous. Thirty or forty years ago it was regularly common in summer in every part of Cambridge, nesting not only near Harvard Square and the College Grounds, but very generally throughout Cambridgeport, where, in many places, the houses stood almost as closely together then as they do today. We seldom see it now

in the older settled portions of the city, even at its seasons of migration. As lately as June, 1902, however, a pair reared young in the Botanic Garden. During that same summer I found a number of birds breeding in a brook meadow on the Joseph Coolidge farm between Elmwood and the Cambridge Cemetery, and a few others in Mount Auburn.

Song Sparrows winter regularly in the Fresh Pond Swamps, where they appear to find congenial shelter and abundant food during the coldest weather and the deepest snows. In the earlier years of my experience it was unusual to note more than two or three there at any one time, but now we often see a dozen or more in the course of a single morning. They are almost equally numerous in a bushy swamp at the outlet of the Lower Mystic Pond. I have known single birds to pass the months of January and February in gardens near my home in Cambridge, as well as in certain briery thickets which formerly bordered the Charles River Marshes between the Cambridge Cemetery and the Watertown Arsenal.

170. *Melospiza lincolnii* (Aud.).

LINCOLN'S SPARROW. LINCOLN'S FINCH.

Not uncommon transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

May 7, 1896, one seen, Lower Mystic Pond, W. Faxon.

May 15—25.

June 1, 1875, one ad. female¹ taken, Pine Swamp, W. Brewster.

September 12, 1870, one taken, Cambridge, H. W. Henshaw.

September 14—October 10.

November 1, 1893, one seen, Belmont, R. Hoffmann² and W. Faxon.

Lincoln's Sparrow is one of the most unobtrusive and inconspicuous of birds. Timid and retiring by nature, it spends the greater part of its time in dense thickets, where it rambles about on the ground, searching for food among the fallen leaves. It has a positive genius for skulking, and if once thoroughly startled is most difficult to follow, for it slinks off quickly and noiselessly, gliding,

¹ No. 150, collection of William Brewster.

² R. Hoffmann, Auk, XVI, 1899, 196.

like a mouse, from one cluster of bushes to the next and, when cornered or closely pressed, doubling back past its pursuer under cover of some fallen tree-top or tangle of rank herbage. In the uncertain light of the places which it usually frequents it may be easily mistaken for a Song or a Swamp Sparrow. It is, moreover, an exceptionally silent bird, although it sometimes utters a Junco-like *chūp* and in May we occasionally hear its low and curiously varied song.

These facts no doubt explain why some of our local ornithologists have seldom or never met with Lincoln's Sparrow, although it is known to be a perfectly regular and not uncommon migratory visitor to the entire Cambridge Region. It has been found in Watertown, Waverley, Belmont, Arlington, Lexington, Waltham and Cambridge;—sometimes in fringes of bushes along stone walls which border roadsides or upland grassy fields; often among young pines or red cedars in rocky pastures; most frequently of all in dense, tangled thickets in the Fresh Pond Swamps and near the outlet of the Lower Mystic Pond. Whenever I pass the month of May in Cambridge, I am nearly sure to see one or two birds in our garden. Here they find such safe and congenial shelter in a large cluster of lilacs that they often remain for several successive days. After becoming accustomed to their surroundings they sometimes venture forth, especially in the early morning or at evening, to feed on the gravelled walks among the flower-beds, and on spaces of close-shaven turf; but they quickly retire into the nearest cover whenever anyone enters the garden.

171. *Melospiza georgiana* (Lath.).

SWAMP SPARROW.

Permanent resident; locally abundant in summer; common in two localities in winter.

SEASONAL OCCURRENCE.

April 12—November 10. (Winter.)

NESTING DATES.

May 13—31.

Throughout the region treated in this Memoir the Swamp Sparrow breeds abundantly wherever the local conditions suit its somewhat peculiar habits. It arrives in April and usually departs with its young before the middle of November. Its favorite haunts are bushy swamps, half-submerged thickets

bordering streams or ponds, and wet meadows covered with wild grasses. To such places it is very strictly confined during the breeding season, but in spring it sometimes visits our garden, and in autumn it may be often found among rank weeds or in beds of asparagus on farming lands, and occasionally in thickets on the edges of upland woods. During the earlier years of my field experience Swamp Sparrows were not known to occur in midwinter near Cambridge, but on January 11, 1883, Mr. Charles R. Lamb met with a flock of seven birds in some dense maple woods on the western side of Pout Pond. Not long after this the cattail flags began to increase and spread in the Fresh Pond Swamps; since they became widely dispersed over the marshes lying to the north and west of the Glacialis, Swamp Sparrows have been constantly present there in winter. The birds vary considerably in numbers with different years, but one may be reasonably sure of starting at least three or four during a morning walk in December, January or February, and under exceptionally favorable conditions as many as a dozen or fifteen may be seen. Another regularly frequented but less populous wintering ground of theirs is a briery swamp, also abounding in cattails, near the outlet of the Lower Mystic Pond in Arlington.

In his list of birds which bred in Norton's Woods between 1866 and 1874 Dr. Walter Woodman mentions the Swamp Sparrow as of doubtful occurrence (perhaps in the bushy swamp which the Red-winged Blackbirds frequented). For several years later one or two pairs nested every season in a little meadow just to the westward of the Cambridge reservoir on Highland Street, and others on a floating island in the pond at the rear of Mount Auburn. The birds have long since disappeared from these localities, but in the Fresh Pond Swamps and at Rock Meadow they continue to appear as numerous as they have ever done within the period covered by my recollection.

In the Cambridge Region the Swamp Sparrow breeds habitually in very wet places and frequently where the surface of the ground is covered to a depth of several inches with stagnant water. One may look for its nest with the best prospects of success on the borders of briery thickets and along the edges of pools and ditches where, owing to the presence of tough-stemmed bushes or to the treacherous character of the ground, the mowers seldom or never swing their scythes. In such places, among rank, tangled grass, dead for the most part and perhaps bleached by the snows of several successive winters, the nest is usually built, a foot or two above the ground or water, and very perfectly concealed. Another and more conspicuous situation for the nest, often chosen by the Swamp Sparrow; and also much favored by the Red-winged Blackbird, is in the crown of one of those emerald-green mounds that are scattered so profusely over most of our fresh-water meadows. These little excrescences, locally known as 'tussocks,' are formed, by a sedge (*Carex stricta*).

172. *Passerella iliaca* (Merr.).

FOX SPARROW.

Transient visitor, usually very common and sometimes abundant; of occasional occurrence in winter.

SEASONAL OCCURRENCE.

March 3, 1871, three seen, Belmont, W. Brewster.

March 15 — April 12.

April 25, 1895, one seen, Cambridge Region, W. Faxon.

October 1, 1871, one seen, Cambridge, W. Brewster.

October 20 — November 15. (Winter?)

December 26, 1903, one seen, Cambridge, H. M. Turner.

December 26, 1904, one seen, Maple Swamp, A. C. Comey.

The Fox Sparrow visits us with unfailing regularity in early spring and late autumn, but in numbers which vary greatly with different years. During some seasons the attractive birds are met with only sparingly, but they are usually common, and occasionally so abundant that I have seen upwards of one hundred in a single flock, and two or three hundred in the course of a morning walk. They were exceptionally scarce for five or six years following the winter of 1894-1895 when they perished by thousands, from cold and starvation, in the South Atlantic States, but they have increased rapidly during the past three or four seasons and are now nearly back to their normal numbers.

Fox Sparrows, like Juncos, prefer upland to swampy places, although they are sometimes seen along the banks of brooks in thickets of alders and other bushes. Their favorite haunts in the Cambridge Region are dense second-growth woods, where the trees are largely pines, hemlocks, or other evergreens; rocky pastures plentifully sprinkled with Virginia junipers; and clusters or belts of bushes bordering roadsides and neglected weed-grown fields. They often appear in apple orchards and among ornamental evergreens in cultivated grounds. We see them very regularly in our garden, although they visit it less frequently and numerously now than they did twenty-five or thirty years ago, when it was by no means uncommon to hear half a dozen males singing at once in the Norway spruces close to the house. No one who has listened to such a chorus is likely ever to forget the sudden outburst of wild, exquisitely modulated voices rising above the rushing sound of the boisterous March wind. Strange to say, the birds sing most freely and with the greatest spirit during stormy weather, especially when snow is falling.

It is probable that Fox Sparrows occasionally pass an entire winter in the Cambridge Region, for they have been twice observed in February (on the 4th and 17th of the month) near Boston,¹ and Mr. H. M. Turner tells me that in 1903 a bird spent the greater part of December in the neighborhood of Norton's Woods, where it was last seen by him on the 26th. Another was noted on December 26 of the following year, in the Maple Swamp, by Mr. Arthur C. Comey.

173. *Pipilo erythrophthalmus* (Linn.).

TOWHEE. CHEWINK. GROUND ROBIN.

Locally common summer resident.

SEASONAL OCCURRENCE.

April 18, 1896, one male seen, Cambridge Region, W. Faxon.

April 23 — October 15. (Winter?)

NESTING DATES.

May 20 — 31.

By reason of its tameness, its large size and its habit of displaying its strikingly colored plumage along the borders of country roads and lanes, the Towhee is a peculiarly conspicuous bird. Were it not so, I should hesitate to call it 'common' in the present connection, for it is not generally distributed, nor anywhere really numerous, in the Cambridge Region. We meet with it oftenest along the high ridge that extends from Arlington to Waverley and in the region lying about Rock Meadow. Its favorite haunts are 'cedar pastures,' and thickets of barberry, hazel, and blueberry bushes, growing along stone walls, and on the outskirts of young birch or oak woods. Sandy or rocky tracts, where the soil is too thin and poor to support anything more than a scanty growth of bushy pines or of oak scrub, are also almost sure to be inhabited by the Towhee. Although it invariably nests on high, dry ground, it feeds to some extent in wet places, especially in autumn when it may be often seen in springy runs and when I have occasionally found it in the Maple Swamp. I have never known it to breed within the limits of Cambridge, nor anywhere in the more eastern parts of Belmont or of Watertown.

¹ H. K. Job, Bulletin of the Nuttall Ornithological Club, VIII, 1883, 150.

There can be little doubt that Towhees occasionally spend the winter in the Cambridge Region, for a male in full song was seen by Mr. William P. Hadley at Arlington Heights on March 23, 1902, a date fully a month earlier than that at which migrants ordinarily arrive from the south, while another bird of the same sex was noted by Mr. G. M. Allen and Mr. J. T. Nichols near the Museum of Comparative Zoölogy, Cambridge, on December 3, 1904. The species has been reported as occurring in Bedford on January 2, 1896, in Brookline on December 25, 1895, and again on March 23 following, and at Jamaica Plain on December 27, 1895.

174. *Cardinalis cardinalis* (Linn.).

CARDINAL. CARDINAL GROSBEAK.

Of irregular, but not very infrequent, occurrence at all seasons.

The earliest known instance of the appearance of the Cardinal in the Cambridge Region is apparently that recorded by Nuttall in the following words:—

“After listening with so much delight to the lively fife of the splendid Cardinal, as I travelled alone through the deep and wild solitudes which prevail over the Southern States, and bid, as I thought, perhaps an eternal adieu to the sweet voice of my charming companions, what was my surprise and pleasure, on the 7th of May, to hear, for the first time in this State, and in the Botanic Garden [Cambridge], above an hour together, the lively and loud song of this exquisite vocalist, whose voice rose above every rival of the feathered race, and rung almost in echoes through the blooming grove in which he had chosen his retreat. . . . The bird which frequented the Botanic Garden for several days, in the morning sang fearlessly and loudly, but at other times the pair hid themselves amongst the thickest bushes, or descended to the ground to feed among the grass and collect insects and worms. . . . About the 4th of July, the same pair, apparently, paid us a parting visit, and the male sung with great energy.”¹

Messrs. Howe and Allen assert² that the Cardinal bred “at the Botanical Gardens, Cambridge, about 1835,” citing Audubon alone as their authority. In volume III of the first edition of the ‘Birds of America,’ published in 1841,

¹T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 521, 523.

²R. H. Howe, Jr., and G. M. Allen, Birds of Massachusetts, 1901, 118.

Audubon says: "According to Dr. T. M. Brewer," a pair "bred in the Botanical Garden, Cambridge, about six years ago, and departed in the fall, with their young."¹ The substance of this statement is repeated by Dr. Brewer in the following words: "A pair was once known to spend the summer and to rear its brood in the Botanical Gardens of Harvard College in Cambridge."² There can be little or no question that the instance referred to by both these writers was the same as that mentioned by Nuttall who, however, does not say that the birds bred in the Botanic Garden, but, on the contrary, clearly implies that they merely paid it a brief visit in early May, reappearing for a single day in July of the same year, which must have been prior to 1832, the date of publication of Nuttall's 'Land Birds.'

On November 1, 1889, Mr. Walter Faxon found a female Cardinal in Arlington on the edge of Spy Pond.

In 1895 a Cardinal was seen or heard repeatedly between June 19 and 23 by Mr. Edward R. Cogswell in the trees immediately about his house on Kirkland Street, Cambridge. Mr. Cogswell writes me that the bird was a male "apparently in good health and in full song."

On August 21, 1897, Mr. H. A. Purdie and I heard the sharp chirp of a Cardinal in a cluster of Norway spruces at Payson Park, Belmont. On the 27th of the same month Mr. Walter Faxon visited the place and saw the bird, which proved to be a male. It was not noted after the date last mentioned.

In 1901 a male Cardinal³ was seen at frequent intervals in November and December in various parts of Cambridge. It was met with first on November 13, in the College Yard, by Mr. Manton Copeland, and last on December 9, in Longfellow Park, by Mr. Thomas Hillery. During the interim it appeared in the Botanic Garden, and in grounds bordering on Wendell Street, Avon Hill Street, Sparks Street and Fayerweather Street. In the locality last named it was observed almost daily from November 21 to 30 in the shrubbery about Mr. Samuel Henshaw's house, where it was regularly fed with rice, peas, crackers, bread crumbs, etc. It was a shy bird, usually retreating into the nearest cover when approached.

Early in the morning of December 26, 1902, Mr. Walter Deane and Mr. Samuel Henshaw saw a female Cardinal in our garden, flitting about among some shrubs and low trees, the branches of which were loaded with damp snow that had fallen during the preceding night. The bird remained in the garden

¹ J. J. Audubon, *Birds of America*, III, 1841, 201.

² Baird, Brewer, and Ridgway, *History of North American Birds*, II, 1874, 101.

³ The occurrence of this bird has already been reported by Mr. Arthur C. Comey in the *Auk* (XIX, 1902, 86).

only a few minutes after it was first noticed and on departing flew off towards the west. So far as I know, it was not afterwards observed by any one.

In 1905 a male Cardinal spent the greater part of the autumn in Cambridge. It was first noticed late in September by Miss Caroline L. Parsons in the grounds immediately about her house on Garden Street. Here it remained through the greater part of October, paying occasional visits to the Botanic Garden where it was seen by various members of the Nuttall Club. Later in the season it wandered more widely. In November it appeared about several of the houses on Buckingham and Sparks Streets, where it attracted much attention. It was observed in our garden on November 17, 18, 23 and 30 and December 8 and 13. On each of the last two dates it alighted on the sill of my study window where it remained for several minutes, eating hemp seed and *suet*, within a few feet of the desk at which I sat writing, giving me an excellent opportunity to examine it closely. It was a beautiful bird, in perfect plumage and condition, showing no signs which I could detect that it had ever been confined. Nor was its apparent tameness on these occasions especially remarkable, for the window is draped with vines and its outer sill is so situated that the birds and squirrels which are fed there regularly through the winter are unable to see distinctly anything that happens within the room.

It has been customary among ornithologists to consider Cardinals which occur north of the usual range of the species as escaped cage birds, but I fail to see why they should be so regarded unless they actually show marks of confinement, which is not often the case. There is certainly no reason why they are not as likely to reach Massachusetts by the aid of their wings alone as is the Carolina Wren or the Blue-gray Gnatcatcher. As these two species are seldom if ever caged, no one questions that their occasional visits to Massachusetts are purely voluntary, although both birds have nearly the same general distribution as the Cardinal while neither is better adapted by nature for extended flight. Of course I do not mean to imply by this argument that *all* the Cardinals seen in eastern Massachusetts are certainly wild birds. Mr. Batchelder writes me that a specimen taken in the grounds surrounding his house on Kirkland Street, Cambridge, "gave no hint of being a cage bird" until he "had it in hand," when "examination left no doubt" of the fact. For this reason I omitted the record from the list above given. It is quite possible that one or two of the Cardinals which I have mentioned in this list were also escaped captives, but I believe that most of them had never known a cage.

175. *Zamelodia ludoviciana* (Linn.).

ROSE-BREADED GROSBEAK.

Very common summer resident.

SEASONAL OCCURRENCE.

April 30, 1896, one male seen and heard, Belmont, A. S. Gilman.

May 10—September 10.

October 3, 1894, one seen, Arlington, W. Faxon.

NESTING DATES.

May 25—June 8.

After dealing with so many birds which have nearly or quite disappeared from Cambridge and its suburbs during the past quarter of a century, it is no small pleasure and satisfaction to come to one whose local history forms such a marked exception to the rule as does that of the Rose-breasted Grosbeak. During the earlier years of my experience this beautiful species was seldom or never seen in summer to the eastward of Fresh Pond and Mount Auburn excepting in Norton's Woods. In the Fresh Pond Swamps and in the woods immediately to the westward of Mount Auburn it then bred regularly, if sparingly, and in the Belmont-Arlington-Lexington-Waltham region was quite as numerously represented as it is at the present day. About 1880 it began to appear in densely populated parts of Cambridge, and during the next fifteen years it increased in numbers and extended its local distribution there. By 1896, the year of its maximum abundance, it had become almost as common as the Baltimore Oriole throughout a district which would be roughly bounded by a line drawn from Mount Auburn to Harvard Square, thence through the College Grounds to Norton's Woods, thence to the Botanic Garden, and finally back to Fresh Pond and Mount Auburn. Within this area the rich, smoothly flowing songs of the male Grosbeaks were heard almost everywhere in May and June for several successive seasons. The birds have been somewhat less numerous here of late, although by no means uncommon. They nest in shade trees close to houses and in apple or pear trees in gardens. Since 1883 they have repeatedly bred in our own garden, and they never fail to visit it in June and July when the cherries and mulberries are ripe.

The Rose-breasted Grosbeak is a summer resident of many localities in the country districts of the Cambridge Region. It is especially common about

Rock Meadow and elsewhere along the course of Beaver Brook, where its favorite nesting haunts are dense birch and maple woods well supplied with undergrowth and not far from water. We find it only sparingly and locally on the sides and tops of the hills, where it frequents crowded sprout growths of young deciduous trees and thickets of tall bushes intermingled with scraggy wild apple trees. For pines, cedars and hemlocks it evidently has no great liking and I have never known it to nest in these or other evergreen trees. The usual or typical situation of the nest is among the upper twigs or branches of a slender birch, maple or oak sapling in the woods, but the birds sometimes build in barberry or blueberry bushes growing about the edges of neglected pastures.

176. *Cyanospiza cyanea* (Linn.).

INDIGO BUNTING. INDIGO-BIRD.

Common summer resident.

SEASONAL OCCURRENCE.

May 8, 1894, one ad. male seen, Cambridge, W. Brewster.

May 15—October 1.

December 5, 1871, one taken, Watertown, M. A. Frazar.

NESTING DATES.

June 4—15.

The Indigo-bird has practically deserted Cambridge and its suburbs within the past twenty years. Although in some respects a rather shy and retiring species, it formerly bred sparingly throughout most of the city proper, including Cambridgeport. There was always a nest in our garden, sometimes in the raspberry or blackberry bushes, but usually in a cluster of spiræas that stood on the border of a gravelled walk just behind the house. The last pair of Indigo-birds appeared here about 1892 when they chose a most unusual situation for their nest, placing it in a clematis vine trained on a wire trellis which screens the main entrance to my museum. Although no one could enter or leave this building without brushing against the foliage of the vine, the birds completed their nest, but they abandoned it after laying two eggs.

Indigo-birds used to breed numerously throughout the region lying between Mount Auburn and the Watertown Arsenal. They are still common enough in many parts of Arlington, Belmont, Lexington and Waltham, where they nest in

raspberry or blackberry bushes near farmhouses; in barberry or hazel thickets about the edges of remote fields and pastures; and in young sprout growths on the borders of woodland. Most of them depart for the south before the end of August, but a few linger through September or even well into October.

[*Cyanospiza ciris* (Linn.). PAINTED BUNTING. NONPAREIL. In Mr. Charles R. Lamb's note-book I find the following entry under date of June 26, 1884: "Today Frank Moulton shot a male Nonpareil with his sling. It was hopping about in a tree in a yard at the corner of Ash and Acacia Streets, Cambridge. It was in good condition and showed no signs of having been a cage bird." About ten years later, on July 22, 1894, a male was seen at Mystic Pond by Mr. Walter Faxon,¹ who writes me that the bird was "in brilliant plumage."

As very many Nonpareils are or, at least, have been, brought alive to Massachusetts for sale, and as the normal breeding range of the species is not known to extend to the northward of North Carolina on the Atlantic coast, it is probable that both of the individuals just mentioned, as well as the few others that have been noted in New England, were escaped cage birds.]

177. *Spiza americana* (Gmel.).

DICKCISSEL. BLACK-THROATED BUNTING.

Formerly a rare summer resident; no record of recent occurrence.

SEASONAL OCCURRENCE.

May 15—September 1 (Nuttall).

Nuttall's statement that the Black-throated Bunting was formerly "not uncommon in this part of New England, dwelling here, however, almost exclusively in the high, fresh meadows near the salt marshes,"² related, no doubt, chiefly to Cambridge. Indeed, Dr. Brewer has affirmed that "in 1833 and 1834 this bird was by no means uncommon in Cambridge in all the (then unoccupied) region around the Botanical Garden and thence to West Cambridge and Charlestown,"³ or in the very region on the confines of which Nuttall lived and about the time his 'Manual' was published.

¹ R. H. Howe, Jr., and G. M. Allen, *Birds of Massachusetts*, 1901, 136.

² T. Nuttall, *Manual of the Ornithology of the United States and of Canada. The Land Birds*, 1832, 462.

³ T. M. Brewer, *Bulletin of the Nuttall Ornithological Club*, III, 1878, 190.

Dr. Brewer's assertion, as far as it may be judged by the context, was based on recollection of his personal experience or of that of some of his friends. It is materially weakened, however, by the fact that, only a few years before making it, he had stated with equal positiveness, in connection with an attempt to discredit Nuttall's testimony,¹ that the Black-throated Bunting "is certainly very rare"² in Massachusetts.

Dr. Allen has assumed that "Nuttall, in his account of the notes and habits of this species, as observed here, has described the peculiar song and habits of the Yellow-winged Sparrow (*Coturniculus passerinus* Bon.) with remarkable aptness, which species he evidently mistook for the Black-throated Bunting."³ In my opinion, however, there is nothing in Nuttall's account to justify the belief — or even suspicion — that he could have made any such mistake. On the contrary everything that he says of the birds which he observed seems to me to indicate that they must have been Black-throated Buntings. His description of their songs is especially convincing evidence to this effect, for to my mind it is one of the best renderings that have ever appeared in print of the song of *Spiza americana*.

But if Nuttall was somewhat vague and Brewer obviously self-contradictory regarding the former occurrence of the Dickcissel in Cambridge the fact that the species has been found here, on at least one occasion, is definitely established by the evidence of the late Mr. J. Elliot Cabot who, under date of March 21, 1899, wrote me as follows: "Black-throated Buntings appeared conspicuously one spring (probably 1839) in the large field which then extended from Jas. Lowell's house [Elmwood] to the Willows and across from the Causeway [Mount Auburn Street] to Brattle St. I shot one, male, but no more, as they appeared to be breeding. I did not see them elsewhere, nor ever before or since."

If I am not mistaken in my somewhat dim recollection of this field before it was graded and otherwise adapted for house lots, it included tracts which might well have been described in Nuttall's words as "high, fresh meadows near the salt marshes," and it is by no means improbable that he, also, saw Black-throated Buntings here. He may have referred, however, to meadows lying near the Mystic River — easily accessible in his day from his home in the Botanic Garden, for the intervening region was not then cut up by streets and railroads, and it contained but few houses.

Within more recent times the Dickcissel has been met with in Watertown, where, on June 26, 1867, Mr. John Thaxter shot a female that appeared to be

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 462.

² Baird, Brewer, and Ridgway, History of North American Birds, II, 1874, 66.

³ J. A. Allen, Proceedings of the Essex Institute, IV, 1864, 84.

incubating,¹ and in Medford, where Mr. Frank E. Bean found a nest with four fresh eggs on June 9, 1877, and "towards the last" of the same month, "in another locality, a second nest containing four young," which both of the parent birds were seen to feed. "Mr. Bean thinks that more than these two pairs may have raised young in his vicinity, as he has heard other birds in this and previous years."² If not actually within the Cambridge Region, the places where Mr. Bean had these interesting experiences are certainly not far distant from its eastern boundaries.

178. *Piranga erythromelas* Vieill.

SCARLET TANAGER. TANAGER.

Rather common summer resident.

SEASONAL OCCURRENCE.

May 8, 1894, one male seen, Cambridge Region, W. Faxon.

May 12 — October 1.

October 15, 1873, one male taken, Belmont, W. Brewster.

NESTING DATES.

June 7 — 15.

Although the Scarlet Tanager breeds abundantly in Concord, Lincoln and Weston, there are only a few places in the Cambridge Region where it is — or ever has been within my recollection — found regularly in summer. One or two pairs used to inhabit the old oak woods now included in the grounds of the McLean Asylum at Waverley, and I have seen others near Arlington Heights, on the hills south and west of Rock Meadow, and in the wild and densely wooded region immediately to the northwestward of the Lyman estate in Waltham. No doubt the birds continue to frequent nearly, if not quite, all these localities, but they have long since deserted the country just beyond Mount Auburn, where, in a tract of oak and chestnut woods which formerly existed near the Watertown Arsenal, I found them nesting sparingly during the earlier years of my field experience.

Tanagers sometimes pay brief visits to the more densely populated parts of

¹ C. J. Maynard, *Naturalist's Guide*, 1870, 120.

² H. A. Purdie, *Bulletin of the Nuttall Ornithological Club*, III, 1878, 45.

Cambridge, usually at their seasons of migration ; within the past decade I have thrice noted them in our garden and Miss Bertha T. Parker tells me that they are seen occasionally in Norton's Woods.

179. *Piranga rubra* (Linn.).

SUMMER TANAGER. SUMMER REDBIRD.

Casual visitor ; only one record.

Mr. John Cullen of Watertown has a Summer Tanager which was killed in that town about June 1, 1896, by Mr. Albert W. Perkins. Mr. C. J. Maynard, who has examined the bird, tells me that it is an immature male. I know of no other instance of the appearance of the species in the Cambridge Region, although it has been repeatedly taken elsewhere in eastern Massachusetts, probably occurring there merely as a chance wanderer from its summer home in the Southern and Middle States.

180. *Progne subis* (Linn.).

PURPLE MARTIN.

Formerly a locally common summer resident. Much reduced in numbers during recent years, and practically if not absolutely extirpated as a breeding bird in June, 1903.

SEASONAL OCCURRENCE.

April 14, 1891, one male seen at breeding box, Lexington, W. Faxon.

April 20 — August 25.

September 13, 1890, one ad. male seen, Waverley, W. Faxon.

NESTING DATES.

May 30 — June 8.

Nuttall, writing of the Purple Martin in 1832,¹ says that "in the maritime parts of Massachusetts, and probably throughout the state, a few years ago,

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 599.

after a rainy midsummer, many were found dead in their boxes." There is a tradition — unsupported, however, by any conclusive evidence that I have been able to discover — that before this happened Martins were accustomed to breed regularly in Cambridge, including Cambridgeport.¹ They certainly have not done so within my recollection, although in 1868 several birds appeared about our house in May and early June. Hoping to induce them to settle there, I put up a box of suitable size and pattern. They visited it repeatedly and even attempted to enter the holes, but were invariably prevented from doing so by the Tree Swallows, which were numerous in the neighborhood at that time and which quickly congregated and drove them away. In those early days Martins were seen rather frequently in late summer flying over the Fresh Pond and Longfellow Marshes, and in August, 1869, they established a small roost in a maple swamp on the west side of Pout Pond, to which they resorted every evening, to pass the night.

Purple Martins used to breed regularly and in some numbers near the town centers of Medford, Watertown and Waltham. I have not seen the birds in any of these localities since House Sparrows became numerous there, but the Martins have maintained a large and flourishing colony at Lexington (not far from the Common) up to within a year or two.

In 1898 a single pair of Martins took possession of a box in Waverley. On June 21 the female was found dead beneath it by Mr. Walter Faxon, who writes me that "there were eggs in the nest, when she was killed," adding "none bred there the next year, or any year since, as far as I know. I was told that in old times the Martins bred there."

Purple Martins have been steadily diminishing in numbers for twenty years or more throughout most of southern New England. Nesting, as they do, chiefly in the heart of cities, towns or villages, in boxes put up for their accommodation, they have been everywhere brought into direct competition with the House Sparrows. Although these pests are much too shrewd and cowardly to openly attack so big and fearless a bird as the Martin, they destroy its eggs or murder its defenceless young whenever the temporary absence of the parent gives them a safe opportunity for doing so. By such insidious means they often obtain possession of the snug quarters at which they are ever casting longing eyes; but some of the larger colonies of Martins have thus far held their ground unaided, and others have been assisted in doing so by a free use of the gun on the part of persons who have been sufficiently observing and unprejudiced to perceive

¹ In a passage which appears in the Introduction to the present Memoir (on page 26) Mr. Henshaw says: "I am confident that I was told by my mother . . . that not many years prior to the sixties there were regularly established colonies [of Martins] within Cambridgeport limits."

that, unless the Sparrows could be kept in check, there would be grave danger of losing the Martins.

In June, 1903, the Martins inhabiting eastern Massachusetts, as well as certain other parts of New England and portions of the Middle States, were visited by a calamity, similar to that chronicled by Nuttall, but apparently even more widespread and disastrous. During exceptionally heavy and protracted rains they were unable to procure food for themselves or their offspring, and both old and young perished by hundreds. In Middlesex County, Massachusetts, the destruction was so nearly complete that only a very few birds were seen after the storms had ceased, and it is not known that any bred the following year.¹ Even at Concord, where several large colonies have existed since time immemorial, the boxes were tenanted only by House Sparrows in 1904. Many of the more northern-breeding colonies of Martins were not seriously affected, however, and it is to be hoped that the overflow from some of these may serve in time to repopulate eastern Massachusetts.

181. *Petrochelidon lunifrons* (Say).

CLIFF SWALLOW. EAVE SWALLOW.

Summer resident, formerly common, now almost gone.

SEASONAL OCCURRENCE.

April 25, 1894, two seen, Cambridge Region, W. Faxon.

April 28 — August 25.

September 4, 1893, one seen (Concord), W. Brewster.

NESTING DATES.

June 5 — 12.

Like the Martin the Eave Swallow suffers directly and very seriously from the encroachments of the House Sparrows who destroy its eggs or young and take possession of its nest whenever opportunity offers. The Eave Swallows began deserting the Cambridge Region, however, before the Sparrows over-ran it. Lowell, writing of the former birds in 'My Garden Acquaintance,'² says,

¹ For a detailed and able account of this tragedy, see 'The Destruction of Birds by the Elements in 1903-04,' by Mr. E. H. Forbush, printed in the 'Fifty-first Annual Report of the Massachusetts State Board of Agriculture,' June 10, 1904, 457-503.

² J. R. Lowell, *Atlantic Almanac for 1869, 1868*, 37.

they had "come and gone again" before 1868. This statement may have been intended to apply only to Elmwood; if used in any much broader sense it was certainly premature or, at least, greatly exaggerated, for Eave Swallows continued to be so common in and about Cambridge for several years after the date just mentioned that one hundred or more might often be seen at one time in early summer, skimming low over Fresh Pond or the neighboring marshes, when the weather was rainy or lowering. Up to about 1870 fifteen or twenty pairs nested on the walls of an icehouse at Spy Pond and for some ten or fifteen years later a rather larger number frequented the Brown farm at the eastern extremity of Rock Meadow, building their nests under the eaves of a barn and on the timbers which supported the roof of an adjoining open shed. There was a still more populous colony about half a mile from the center of Watertown on the south side of Charles River in Newton. When I visited it on the evening of June 11, 1869, there were sixty or seventy occupied nests strung in a long row along the western side of a large barn. The owner of the place destroyed them all soon afterwards and the birds did not return. He objected to the presence of the Swallows because their droppings disfigured the barn. With his permission I took a number of their eggs. It was almost dark at the time and all the birds had come in. As a rule I found two of them (a mated pair, no doubt) in each nest, but several of the nests that I examined sheltered *three* birds each. I regret that I did not kill and dissect the members of one of these trios. There are reasons for suspecting that both Eave and Bank Swallows — as well as Chimney Swifts — sometimes practise either polygamy or polyandry, and I should not have neglected so good an opportunity to obtain evidence bearing on a question of such interest and importance.

From about 1865 to about 1874 two or three pairs of Cliff Swallows bred every season in the College Grounds, almost within stone's throw of Harvard Square. Their retort-shaped nests were firmly attached to the rough granite walls of Boylston Hall, where they were so perfectly protected from the weather by the overhanging eaves that they remained intact for nearly ten years after the birds had ceased to occupy them.

During the past decade comparatively few Eave Swallows have been seen in the Cambridge Region, except at their seasons of migration, and the only breeding colony known to exist at the present time is, I believe, that which occupies a barn near the Concord Turnpike just beyond Rock Meadow. When I last visited it (in 1898) there were only a few pairs of birds, the descendants, no doubt, of those which used to frequent the Brown farm, at the eastern end of this meadow.

182. *Hirundo erythrogaster* Bodd.

BARN SWALLOW.

Summer resident, formerly abundant and still common but steadily diminishing in numbers.

SEASONAL OCCURRENCE.

April 5, 1893, one seen, Waltham, W. Faxon.

April 20 — September 10.

October 7, 1868, one seen, Cambridge, W. Brewster.

NESTING DATES.

May 25 — June 10.

In the days of my boyhood scattered pairs of Barn Swallows bred in the most densely populated parts of Cambridge, and of *Boston*, also, building their nests under the roofs of piazzas and on the capitals of wooden or stone columns that ornamented the fronts of public buildings, such as the State House, for example. During cloudy weather the graceful, tireless birds might be seen almost everywhere, skimming just above the surface of the ground through Harvard Square, over the Common and in the College Grounds, and along the narrowest and busiest of our city streets. They were especially numerous about our own place, for within a few minutes' walk of it, on the Stimpson farm at the head of Sparks Street (where Huron and Concord Avenues now intersect), at least forty or fifty pairs nested in an old barn, the doors and windows of which were always left open in summer. There were many such colonies in the region about Fresh Pond and throughout Belmont, Arlington, Lexington, Watertown and Waltham. The Swallows, for a few days after their arrival in April, and for several weeks in July and August after their young had taken wing, congregated about our fresh-water ponds and marshes in simply countless numbers. Many of those present at such times may have been migrants, but even at the height of the breeding season, whenever the weather was damp and cloudy, hundreds of birds might often be seen near together, flying over Fresh Pond or the neighboring swamps.

Lowell, in 'My Garden Acquaintance,' says:¹ "The barn-swallows, which once swarmed in our barn, flashing through the dusty sunstreaks of the mow,

¹ J. R. Lowell, Atlantic Almanac for 1869, 1868, 37.

have been gone these many years." When this was written (in 1868) the colony in the Stimpson barn was still populous and apparently flourishing, but it began to decline soon afterwards and, if I remember rightly, was wholly broken up by 1875, although I am not quite sure that it did not continue to exist for a year or two later. Since 1880 Barn Swallows have been steadily diminishing in numbers throughout the Cambridge Region and at the present time only a very few breeding colonies remain, although the birds are still common enough at their seasons of migration, when they may be occasionally seen passing high in air over our garden. They have long since ceased to appear there in May and June, or, at any season, to glide low over the city streets and lawns after their old familiar and delightful fashion. Had not their former nesting places under piazza roofs and porches been wrested from them by the House Sparrows, it is probable that at least a few birds would have continued to frequent even the more densely populated parts of Cambridge. Their decrease in the country districts, however, is evidently due chiefly if not wholly to another cause, *viz.*, the very general substitution of tightly closed barns and sheds of modern construction for the older-fashioned buildings which were so generously ventilated, either through negligence or by design, that the birds could enter or leave them at all hours of the day and often by a dozen different openings at once.

183. *Iridoprocne bicolor* (Vieill.).

TREE SWALLOW. WHITE-BELLIED SWALLOW.

Formerly an abundant summer resident, now comparatively seldom seen except during migration when it is often rather numerously represented.

SEASONAL OCCURRENCE.

March 18, 1868, one seen, Fresh Pond Swamps, W. Brewster.

April 5 — October 8.

October 17, 1878, one seen, Belmont, C. W. Townsend.

NESTING DATES.

May 20 — 30.

White-bellied Swallows were among the commonest and most familiar of our summer birds before the English Sparrows came. I remember when the Swallows bred numerously in or near the town centers of Belmont, Arlington, Lexington, Waltham and Watertown, as well as throughout all of Cambridge and even on Boston Common. In those happy days the number of birds was appar-

ently limited only by the facilities for nesting which the region afforded. On our own place I never succeeded in putting up enough boxes to oversupply the demand, although at one time (in 1870, I think it was) no less than *thirteen* pairs of Tree Swallows, besides two pairs of Bluebirds and three or four pairs of House Wrens, were breeding within a space of three or four acres close about our house. As the English Sparrows multiplied and spread, the Swallows began to yield ground. It was heart-rending to watch the spirited but obviously hopeless struggle which they made against the ever increasing hordes of their remorseless foes who, although not often venturing to attack the Swallows openly, lost no opportunity of destroying their eggs or young or of pulling their nests to pieces, whenever the parent birds were absent from the boxes. By such means the persistent Sparrows got possession of box after box until, after resisting for upwards of ten years, the Swallows were finally driven from practically all their former breeding haunts in Cambridge and its immediate neighborhood. This happened about 1885. Since then scattered pairs of Tree Swallows have continued to nest (usually in old orchards) in the farming districts of Watertown, Waltham, Belmont, and Lexington, but the birds have been steadily diminishing in numbers, especially during the past decade, and it is to be feared that the time is not far distant when they will have wholly ceased to breed in the Cambridge Region.

At their seasons of migration White-bellied Swallows still appear rather numerous about our ponds and meadows. They are also seen passing over Cambridge on their way to and from the Longfellow Marshes where they used to occur, late in summer, in enormous flocks.

184. *Riparia riparia* (Linn.).

BANK SWALLOW. SAND MARTIN.

Summer resident, once locally abundant, now uncommon except during migration.

SEASONAL OCCURRENCE.

April 24, 1869, one seen, Fresh Pond, W. Brewster.

April 28 — September 1.

September 13, 1887, seen, Waverley, W. Faxon.

NESTING DATES.

May 28 — June 12.

Up to about 1880 fifty or sixty pairs of Bank Swallows nested every season

in a high gravel-bank near Concord Avenue, a little to the northwestward of Fresh Pond. This was the only really noteworthy breeding place which has existed in the Cambridge Region within my recollection, although in still earlier times a colony, which Colonel T. W. Higginson assures me was the largest that he has ever seen anywhere, occupied a bank bordering the roadside at Simon's Hill, about where the Cambridge Hospital now stands. The latter locality, no doubt, was that referred to by Lowell, in 'My Garden Acquaintance,'¹ in the following words: "The bank-swallows, wellnigh innumerable during my boyhood, no longer frequent the crumbly cliff of the gravel-pit by the river."

The colony at Fresh Pond was mercilessly raided by boys, as well as disturbed by constant carting away of gravel, but the birds continued to maintain it as long as the bank kept its vertical face. We used to see them skimming everywhere over the neighboring ponds and marshes in May, June and July, and they often visited Rock Meadow during these months. In August, when the migratory flights were passing southward, they also frequented the salt marshes along Charles River, sometimes in countless numbers. They still occur rather plentifully at all these places during migration, but we seldom see them now at other seasons and I cannot learn of any locality in the Cambridge Region where one may be sure of finding them breeding at the present time. Mr. Richard S. Eustis tells me, that as lately as 1902 five or six pairs nested in a gravel bank near Pout Pond, not far from where the large colony was formerly established but on the opposite (*i. e.* northern) side of Concord Avenue. He doubts if any of the birds succeeded in rearing young, for most of their holes were dug out by boys soon after the eggs had been laid.

[*Stelgidopteryx serripennis* (Aud.). ROUGH-WINGED SWALLOW. An entry in my journal relating to a visit which I made on May 24, 1884, to Rock Meadow, Belmont, in company with the late Mr. Walter E. Bryant of California, contains the following passage: "Shortly afterward I saw a pair of *Stelgidopteryx serripennis* flying over some muddy ground where the meadow grass had been burned. They frequently alighted, once in the road within long gun-range, but I could not get sufficiently near them to use my collecting-pistol, the only weapon I had with me. Finally they circled off and disappeared."

At the time this incident happened I was perfectly familiar with the Rough-winged Swallow in life, and accustomed by long practice to distinguish it, both when on wing and at rest, from the Bank Swallow. Although the birds found at Rock Meadow were too shy to be closely approached, they were seen, as I distinctly remember, under conditions which enabled me to make out all the details of their color and markings, as well as to note their characteristic manner of flight. Had the case been otherwise, I should not have ventured to identify them so confidently. Nevertheless I do not expect — nor even wish — my observation to be regarded by ornithologists as furnishing a wholly satisfactory and definite record. Indeed it should not be very seriously considered until the Rough-winged Swallow has been actually taken in,

¹ J. R. Lowell, *Atlantic Almanac* for 1869, 1868, 37.

or at least very near, the Cambridge Region. At present the species is definitely known to have occurred in Massachusetts only at North Adams, where two pairs were found nesting in June, 1895,¹ and at Easthampton, where a single specimen was obtained by Mr. W. S. Clark in May, 1851.²

[*Ampelis garrulus* Linn. BOHEMIAN WAXWING. Dr. Allen, in his 'Rarer Birds of Massachusetts,'³ says of the Bohemian Waxwing, "A specimen has been seen the present autumn (October, 1869), in Cambridge, by Wm. Brewster." The substance of this statement was repeated by Mr. C. J. Maynard in his 'Naturalist's Guide' (which appeared almost contemporaneously with, but, I believe, a little later than, Dr. Allen's paper) in the following words: "Mr. William Brewster also saw a specimen, during November of 1869, at Watertown."⁴ The bird to which both writers refer was met with by Mr. H. W. Henshaw and myself in Watertown (not "Cambridge") on October 1 (not "during November"), 1869. At the time it was by no means certainly or even confidently identified by us, as is shown by an entry, made, that evening, in my diary, where the observation is noted briefly under the heading "*Ampelis garrulus* (probably)." Not long afterward, as I distinctly remember, Mr. Henshaw and I decided that the bird could not have been a Bohemian Waxwing. We had only a very poor view of it, for it was in dense woods, and too shy to be closely approached. No doubt I spoke of it to Dr. Allen and Mr. Maynard, for I met them both rather frequently that autumn; the fact that the former was in error respecting the locality where the bird was seen, and the latter mistaken in regard to the date of its occurrence, indicates, however, that neither author could have taken very careful note of whatever I may have said, while it is practically certain that I could not have either wished or intended the matter to get into print, at least in the form of such meagre, yet positive, statements. Now that the record must be expunged no evidence remains, I believe, that the beautiful bird to which it relates has ever been found in the Cambridge Region. The species has occurred, however, at localities no more distant than Bolton, where eleven specimens were collected by Mr. S. Jillson, in January, 1864,⁵ and Lynn; where Mr. N. Vickary took a single female on February 18, 1877.⁶

According to Dr. Brewer, "in a single instance, in midwinter, somewhere about 1844, during a severe snow-storm, a large flock of these birds made their appearance in Boston, and alighted on a large horse-chestnut tree that stood in an open and retired place. There were at least twenty or thirty in the flock; they remained in their shelter undisturbed for some time, and their true specific character was plainly noticeable."⁷ As the name of the person who made this observation is not given, his testimony cannot be accepted with much confidence. Even if we assume that the birds were seen by the writer of the paragraph, himself,—as is not improbable,—the case must still remain in doubt, for, as I have abundant reasons for asserting, Dr. Brewer was not a reliable field ornithologist. The record⁸ by Audubon of "a pair," which his sons found "in the autumn of 1832, whilst rambling near Boston," and "pursued more than an hour, but without success," is also far from satisfactory.]

¹ W. Faxon, Auk, XII, 1895, 392.

² H. L. Clark, Birds of Amherst and Vicinity, 1887, 49.

³ J. A. Allen, American Naturalist, III, 1870, 579.

⁴ C. J. Maynard, Naturalist's Guide, 1870, 108.

⁵ J. A. Allen, American Naturalist, III, 1870, 579.

⁶ W. Brewster, H. D. Minot, Land-birds and Game-birds of New England, ed. 2, 1895, 154, footnote.

⁷ Baird, Brewer, and Ridgway, History of North American Birds, I, 1874, 398.

⁸ J. J. Audubon, Birds of America, IV, 1842, 166.

185. *Ampelis cedrorum* (Vieill.).

CEDAR WAXWING. CEDARBIRD. CHERRYBIRD.

Abundant transient visitor in early spring and rather common summer resident ; irregularly common in winter.

NESTING DATES.

June 6 — 25.

The seasonal movements of the Cedarbird are somewhat erratic and not as yet fully understood. There is apparently a double migration northward, the first flight — which is much the heavier of the two — reaching eastern Massachusetts anywhere between the last of January and the first of March. The birds which compose it appear suddenly, often in very large flocks, and make themselves peculiarly conspicuous by roaming restlessly over the country, frequently visiting densely populated localities to feast on the berries of the mountain ash, the English hawthorn, Parkman's apple and other cultivated trees. They also eat asparagus berries, and they are especially fond of the berries of the red cedar or Virginia juniper. They disappear almost completely before the end of April, presumably going further north to breed, although this has never been definitely established.

The second flight, which arrives in May, is believed to be made up chiefly, if not wholly, of the birds which pass the summer with us. They appear in pairs or in small, scattered flocks which are seen almost everywhere but most frequently in apple orchards.

The return migration in autumn is not well marked, but it apparently takes place in August and September, when Cedarbirds are rather common for a few weeks, especially in localities where rum cherry trees abound. But few are seen in October, and almost none in November. This scarcity usually continues through the earlier part of the winter, but when there is a plentiful supply of food the birds sometimes appear rather numerous in December and remain until spring.

The Cambridge Region has always been a favorite resort of Cedar Waxwings and these birds continue to visit us in considerable numbers. In late winter and early spring they frequent the hilly pastures of Arlington, Belmont and Waltham, to feed on the berries of the barberry and red cedar, also appearing fearlessly and by no means infrequently in our city gardens, to which they

are attracted by the fruit of such cultivated trees as those mentioned above. Whenever our Parkman's apple bears generously, it is sure to be visited and quickly despoiled of its tiny fruit by the ever greedy Waxwings. I remember when they were found regularly and in immense flocks, in February and March, in the country immediately to the westward of Mount Auburn where large beds of asparagus and extensive woods of Virginia junipers supplied them, and the no less abundant Robins, with food and shelter during the coldest weather and the deepest snows.

In the earlier days there was but little public sentiment in favor of the protection of our smaller birds, and both Cedarbirds and Robins were often killed for the table. They were especially persecuted in winter, in the beautiful evergreen woods just mentioned, where some of the local gunners were accustomed to dispose of their victims on the spot, after broiling them over a fire of dead pine branches kindled in some sheltered nook. I am glad to say that neither I nor any of my personal friends ever participated in these barbarous feasts, but we occasionally witnessed them from a distance and often found the embers of the fires, surrounded by quantities of feathers and other remains, where the birds had been plucked and eaten.

Cedarbirds are rather adroit at catching flying insects, which they pursue and snap up much in the same way as do the true Flycatchers. They indulge most freely in this habit in late summer, about the margins of ponds and streams. I used to see them engaged in it in July and August at Fresh Pond. During calm, cloudy weather they sometimes collected, to the number of fifty or more, in one or another of the coves, perching on icehouses and on the branches of trees that overhung the water. From these points of vantage they made incessant and evidently very destructive forays among the dipterous insects that hovered in swarms over the pond. Birds which I shot on such occasions often had not only their crops, but also their gullets and throats, filled to overflowing with insects.

When no insects are on wing Cedarbirds sometimes practise the art of fly-catching on inanimate but rapidly moving objects. Thus on March 1, 1866, I saw the members of a large flock engaged in chasing and capturing whirling *snowflakes*, at which they launched out in quick succession from the upper branches of a tall elm. This happened in Watertown. Probably the birds were only amusing themselves, although they may also have enjoyed slaking their thirst with snow fresh from the clouds.

Various writers have asserted that the Cedar Waxwing has no vocal utterances other than the thin, hissing calls which are familiar to everyone. I have heard it give a succession of loud, full notes, rather mellow in quality and not unlike some of those which Tree Swallows use in spring. On several occasions

I have known them to be uttered by a single Waxwing that had just left a feeding flock and was circling rather high in air, over a field, performing what looked like a song flight. I suspect, however, that these swallow-like calls represent cries of alarm or of apprehension, rather than song notes, for sounds very like them are often made by wounded Waxwings.

Cedar Waxwings still breed — although much less numerous and generally than formerly — throughout the more thinly settled portions of the Cambridge Region, usually in old apple orchards, in pastures grown up to tall red cedars, and in scattered groves or clusters of pitch pines. During the period covered by my recollection they have never been very common in summer (except at the season of ripening cherries) in densely populated parts of Cambridge. I have known them to breed there, however, even within recent years. In the autumn of 1899, after the leaves had fallen, Mr. Julian Burroughs found a nest built in the fork of a maple on Riedesel Avenue within a few rods of our house. A Waxwing, dried to a mummy by long exposure to sun and wind, was hanging beneath the fork, suspended by a piece of twine in which the unfortunate bird had become entangled, evidently during the preceding summer and probably while engaged in putting the finishing touches to its nest.

186. *Lanius borealis* Vieill.

NORTHERN SHRIKE. BUTCHER-BIRD.

* Common winter resident.

SEASONAL OCCURRENCE.

October 21, 1892, one seen, Lexington, W. Faxon.

November 1 — April 1.

April 10, 1901, one seen, Cambridge, W. Deane.

Like most predatory creatures the Northern Shrike is given to ranging widely and to leading a solitary life. In autumn and winter it is seldom found associating with other individuals of its own kind, although I have occasionally seen two or three birds together, and Mr. M. Abbott Frazar once met with *eight* hunting in company in Waltham. The species is always present in the Cambridge Region from November to April, but in numbers which vary greatly during different years and, to a less degree, during different months of the same year. A diligent observer may see as many as ten or a dozen different birds in the course of a single winter, but oftener only two or three will be noted. As a

rule the Butcher-bird avoids extensive woodlands, and frequents open, cultivated country or unreclaimed meadows dotted with isolated trees. The Fresh Pond Swamps have ever been among its most favored haunts. At times it comes freely and fearlessly into the most densely populated parts of Cambridge and Boston to prey on the House Sparrows. Its valuable services in thinning the swarms of these feathered pests were so ill appreciated at first that in Boston men were employed to shoot the Shrikes as fast as they appeared on the Common or in the Public Garden. Upwards of fifty were killed there during a single winter, twenty-five or thirty years ago, but since then the Shrikes have been left quite unmolested in our cities. Whenever a Shrike appears in our garden, as happens occasionally in autumn and not infrequently in winter, all the House Sparrows which have been haunting the place disappear at once, often for days in succession. I have repeatedly found the remains of Sparrows, that Shrikes had killed and partly eaten, hanging suspended from forks in the thicket of lilacs or in the apple trees, just behind the house. Indeed the presence of a Shrike in our neighborhood is often first made known to us by the discovery of these or similar remnants of its feasts.

187. *Lanius ludovicianus migrans* W. Palmer.

MIGRANT SHRIKE. 'LOGGERHEAD SHRIKE.' 'WHITE-RUMPED SHRIKE.'

Very rare winter visitor.

Although the Migrant Shrike is now known to breed regularly and not uncommonly in many of the less heavily forested parts of Maine, New Hampshire and Vermont, and sparingly in western Massachusetts, it has been thus far found in eastern Massachusetts only in autumn, winter and early spring and in such limited numbers that it is seldom noticed, even by our most active and experienced field ornithologists. It seems to occur oftenest in the neighborhood of Lynn and Salem where at least half a dozen specimens have been taken within the past twenty years. There are also records for Brookline (February, 1879), Newtonville (January 28, 1874), West Newton (October 21, 1872), and Framingham (January 29, 1884). I can give only one for the Cambridge Region, *viz.*, that of a female¹ in my collection, which was shot in the western part of Somerville on November 9, 1892, by Mr. Wilmot W. Brown, from whom I purchased the specimen.

¹ No. 45,175, collection of William Brewster.

Specimens of the Migrant Shrike, taken in New England, have been repeatedly recorded as either 'Loggerhead' or 'White-rumped' Shrikes. As these names are still in current local use, I have given them both in the above heading. Neither of them, of course, should be applied other than colloquially to the New England bird, at least by those who believe with Dr. Palmer that the form *migrans* is subspecifically distinct from both *ludovicianus* and *excubitorides*.

188. **Vireo olivaceus** (Linn.).

RED-EYED VIREO. RED-EYE.

Abundant summer resident.

SEASONAL OCCURRENCE.

May 7, 1890, one seen, Cambridge, W. Brewster.

May 10 — September 10.

November 2, 1870, one female taken, Watertown, W. Brewster.

NESTING DATES.

May 28 — June 10.

The Red-eyed Vireo is one of the most abundant and evenly distributed of our summer birds. Its flowing, cheerful, but monotonous, song may be heard at all hours of the day from the middle of May to well into the summer, wherever there are woods, groves, orchards, or even isolated clusters of trees, whether on high or low ground, and alike in places remote from and much frequented by man. The Red-eye occurs oftenest and most numerous, however, in deciduous woods, especially those which shade low, damp ground along the borders of brooks or about the edges of swamps or meadows. In Cambridge it still breeds sparingly in or near the College Grounds and throughout the rather densely populated districts immediately to the north and west. Ever since I can remember, a pair have nested every season in the trees immediately about our house, and we have but to go to Mount Auburn or to the Fresh Pond Swamps to hear the songs of three or four males coming from as many different directions at once. After the singing season is over the birds attract comparatively little notice, for, as a rule, they keep high up in the trees, where they are securely hidden by the dense foliage of late summer. The few that remain with us after the first of September are most likely to be found in swampy thickets, feeding on the berries of the nightshade or on those of one or another of our cornels.

189. *Vireo philadelphicus* (Cass.).

PHILADELPHIA VIREO.

Rare transient visitor.

On September 7, 1875, I shot a female Philadelphia Vireo¹ in Cambridge. It was feeding in company with several Red-eyed Vireos in a cluster of large white willows at the eastern end of Fresh Pond. These fine old trees, with the half-ruined icehouses which they shaded, were long since removed to make place for the narrow, grassy park that now extends from Concord Avenue to the Cambridge pumping-station between the Watertown Branch of the Fitchburg Railroad and Lake View Avenue.

The instance just cited was originally reported in the 'Bulletin of the Nuttall Ornithological Club.'² For nearly twenty years it remained the only one on record for the Cambridge Region, but in 1895 Mr. Walter Faxon announced³ the capture of a second bird which had been killed by a boy, with a catapult, near the Museum of Comparative Zoölogy on September 27, 1894. This specimen⁴ was preserved by Mr. Faxon and, thanks to his kindness, it is now in my collection.

Until very recently the Philadelphia Vireo had never been found in Massachusetts in spring, but in June, 1900, a rumor reached me to the effect that Mr. C. J. Maynard had just seen a number of birds in Waltham. I at once wrote to him on the subject and received the following interesting reply:—

"Yes, it is quite true that I have seen the Philadelphia Vireo in numbers this season. I found the first on the top of the east peak of Prospect Hill, on the morning of May 10, a cold morning, as you will remember, but in spite of the cold a great day for birds. Warblers were abundant and, being half dead with cold, were very tame. The same was also true of the Philadelphia Vireos. I got within ten feet of the first I saw and was completely satisfied with its identity. I could not have been more certain with the bird in my hand. An hour later I found several more on the corner of Forest and Beaver Streets, Waltham. These also were very tame. The species appears to have lingered,

¹ No. 103, collection of William Brewster.

² W. Brewster, Bulletin of the Nuttall Ornithological Club, I, 1876, 19.

³ W. Faxon, Auk, XII, 1895, 84.

⁴ No. 45,178, collection of William Brewster.

for, on the 17th, I found a little flock feeding in a Norway spruce at Chestnut Hill. These birds also were very tame, and I got within a few feet of them, and, with my glass, saw them quite clearly. You may judge that I was very much surprised in both cases. I did not hear the birds sing at all, but heard the scolding note once or twice."

It is to be regretted that observations so interesting and important as those just quoted could not have been absolutely verified by the capture of at least one of the birds. The Philadelphia Vireo is so difficult of positive identification without the aid of a gun, and its local occurrence in numbers is so unprecedented, not to say improbable, that I trust Mr. Maynard will pardon me for venturing to suggest that his record cannot be regarded with quite the same confidence as if it had been backed by the actual taking and preservation of a specimen. It would not, indeed, be worthy of serious consideration, did it not rest on the authority of an ornithologist whose keen and discriminating powers of observation, and wide field experience, are known to every one.

190. *Vireo gilvus* (Vieill.).

WARBLING VIREO.

Locally common summer resident.

SEASONAL OCCURRENCE.

April 29, 1891, one seen and heard, East Lexington, W. Faxon.

May 5 — September 15.

September 23, 1891, one seen and heard, Arlington, W. Faxon.

NESTING DATES.

May 30 — June 8.

The Warbling Vireo is a bird of somewhat peculiar and restricted distribution. It shuns extensive tracts of woodland and, indeed, most wild and primitive places, although it nests sparingly in orchard or shade trees near secluded farmhouses, and rather frequently along country roads bordered by rows of large elms or maples. We find it most commonly and regularly, however, in or near village centers such as those of Lexington, Arlington, Belmont and Watertown, where, during the greater part of the summer, its sweet, smoothly flowing song may be heard at all hours of the day, issuing from the canopies of foliage

that overarch even the most frequented streets. It still breeds throughout much of Cambridge (including Cambridgeport), although it is decidedly less numerous here now than it was before the city was invaded by House Sparrows.

The nest of the Warbling Vireo is ordinarily built at least thirty or forty feet above the ground, at the end of a long, slender branch. Silver-leaved poplars are preferred to all other trees, but where these are not available the birds content themselves with large, spreading white ash trees, or with elms, lindens or maples, while they occasionally choose apple or even pear trees. After the young take wing the adult males are usually silent for a time, but they begin singing again, and with nearly their former vigor, before the end of July. They are heard at frequent intervals through August and up to about the middle of September when most of them depart for the south. During the latter part of the summer both old and young resort to thickets of cornels (especially *Cornus alternifolia*), the berries of which they eat greedily.

191. *Vireo flavifrons* Vieill.

YELLOW-THROATED VIREO.

Common summer resident.

SEASONAL OCCURRENCE.

May 1, 1890, one seen, Belmont, W. Faxon.

May 6 — September 10.

September 19, 1901, one noted singing, Arlington, W. Faxon.

NESTING DATES.

May 26 — June 5.

The Yellow-throated Vireo is a common summer resident of most of the wooded as well as cultivated portions of the Cambridge Region where its favorite haunts are upland woods and groves abounding in large, spreading oaks or hickories; old, moss-grown apple orchards; and clusters of shade trees near farm buildings. It also breeds regularly in many densely populated localities. In Cambridge we continue to hear its abrupt, emphatic song in the neighborhood of the College Grounds and along Brattle Street all the way from Harvard Square to Mount Auburn, although here, as in most places which have become similarly infested with House Sparrows, the Yellow-throated Vireo is much less

numerously represented now than it was twenty-five or thirty years ago. In late summer, when it indulges, like the Warbling Vireo, in renewed and vigorous singing, after a rather protracted interval of almost total silence, it may often be met with in extensive tracts of woodland, associating with Chickadees and with migrating Warblers of various kinds. Most of our Yellow-throated Vireos leave for the south before the first of September and the last stragglers rarely linger later than the middle of that month.

192. *Vireo solitarius* (Wils.).

BLUE-HEADED VIREO. SOLITARY VIREO.

Not uncommon transient visitor and rare summer resident.

SEASONAL OCCURRENCE.

April 14, 1890, one seen near Prospect Hill, Waltham, W. Faxon.

April 20 — May 8. (Summer.)

May 13, 1875, one ad. male¹ taken, Belmont, W. Brewster.

September 11, 1880, one male² taken, Cambridge, H. M. Spelman.

September 15 — October 5.

October 11, 1870, one im. female³ taken, Watertown, W. Brewster.

NESTING DATES.

May 28 — June 20.

In respect to one of its characteristics the Solitary Vireo is aptly named, for it loves to haunt deep and solitary woods, preferring those which shade remote glens and rocky hillsides and which are made up largely of evergreen trees, especially hemlocks and white pines. It is not, however, an unsocial bird, for it may often be found, at least in autumn, in company with Chickadees and various species of Warblers. We used to meet with it rather frequently, at its seasons of migration, in the cedar and pitch pine groves immediately to the westward of Mount Auburn as well as in most of the wooded swamps near Fresh Pond, and it continues to appear in the wilder parts of Arlington, Belmont, Lexington and Waltham, where it occasionally passes the summer. Like the Bluebird it

¹No. 105, collection of William Brewster.

²No. 339, collection of H. M. Spelman.

³No. 3278, collection of William Brewster.

suffered severely from cold and starvation at the South, in the winter of 1894-1895, and since then it has not revisited eastern Massachusetts in anything like its former numbers.

On June 26, 1875, I took a nest of the Solitary Vireo, containing four fresh eggs,¹ in an extensive tract of woodland north of the Lyman estate in Waltham. Another nest with eggs was found by Mr. Walter Faxon on June 12, 1895, near Arlington Heights, where I, also, have occasionally met with birds that were evidently breeding.

The only instances known to me of the occurrence of the Solitary Vireo within the more densely populated portions of Cambridge happened in 1903 and 1904. On April 28 of the former year a male appeared in our garden. Greatly to my surprise he spent the remainder of that spring and part of the following summer there, being noted last on July 31. His daily range extended through several of the adjoining estates, including Hubbard Park, but he seldom wandered to greater distances from the spot where he was first seen. He was a peculiarly interesting bird because of the fact that he had two songs, one perfectly characteristic of his own species, the other indistinguishable from that of the Yellow-throated Vireo. These songs were invariably kept distinct, the notes of one never being interpolated among those of the other; nor was the bird ever known to change from one to the other save after a well-marked interval of total silence. Although he was not seen that season in company with any other bird of either his own or any closely allied species, it is probable that he had a mate, or at least a nest, for one day late in June my assistant, Mr. Gilbert, found him engaged in tearing strips of loose bark from a birch tree in our garden, whence he took them across the street into a neighboring enclosure.

In 1904 a Solitary Vireo was observed in our garden on June 6; July 7, 19, and 22; and August 3 and 12. That the bird seen on these dates was the same as the one noted in 1903, admits of no doubt, for he again made frequent use of the characteristic song of the Yellow-throated Vireo as well as of that of his own species. During this second summer Mr. Walter Deane found him on one occasion near the head of Sparks Street in company with a Yellow-throated Vireo with which he was apparently mated. I am inclined to believe—although in support of such an assumption I can give no evidence additional to that already mentioned—that during both seasons he paired with a female *Vireo flavifrons*. If any young were reared, they escaped our notice.

¹ These eggs, with the nest, no. 775, are still in my collection.

193. *Vireo noveboracensis* (Gmel.).

WHITE-EYED VIREO. WHITE-EYE.

Formerly a common summer resident, but fast becoming one of our rarest birds.

SEASONAL OCCURRENCE.

May 2, 1890, a pair seen, Belmont, W. Faxon.

May 8 — September 20.

September 27, 1890, one male seen, singing, East Lexington, W. Faxon.

October 30, 18 —, seen and heard, Cambridge, T. Nuttall.¹

NESTING DATES.

June 1 — 10.

Up to about 1880 White-eyed Vireos bred regularly and rather commonly in a dozen or more localities within the Cambridge Region. I have found their nests and eggs in the Fresh Pond Swamps, along the course of Clematis Brook, at Rock Meadow and in the springy runs to the westward of Arlington Heights. In 1885 I began to note a falling off in the numbers of the birds, which has continued steadily ever since. During the past decade they have become so scarce that no one, so far as I can learn, has met with more than two or three pairs in the course of a single season. I am at a loss to account for this decrease, unless by the theory advanced on pages 62-64 of the Introduction to the present Memoir. If the White-eyes have not returned to regions lying further to the southward from which they were originally driven by overcrowding, I cannot understand what has become of them. They have never been seriously molested by our local collectors and most of their former resorts remain practically unchanged, while it is not likely that the birds can have suffered heavy losses during migration, for in that case they would have abruptly ceased to visit us, instead of disappearing slowly and gradually. During the years of their comparative abundance their favorite summer haunts were briery thickets covering swampy or very moist ground, but scattered pairs were occasionally found nesting in upland pastures among barberry bushes or other low-growing shrubs. I have never known the White-eyed Vireo to visit the more densely populated parts of Cambridge, even at its seasons of migration.

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, ed. 2, 1840, 348-349.

194. *Mniotilta varia* (Linn.).

BLACK AND WHITE WARBLER. BLACK AND WHITE CREEPER.

Abundant migrant and very common summer resident.

SEASONAL OCCURRENCE.

April 21, 1871, one male seen, Belmont, W. Brewster.

April 25 — September 5.

October 1, 1899, one male seen, Cambridge Region, W. Faxon.

NESTING DATES.

May 18 — 30.

The Black and White Creeper used to breed sparingly in the country immediately to the westward of Mount Auburn as well as on the wooded ridges and islands in the Fresh Pond Swamps. I do not think that it now occurs anywhere in the more eastern parts of the Cambridge Region excepting at its seasons of migration, when it appears regularly, and often rather numerous, in our city gardens, especially in late August. It is a common summer resident of the wilder portions of Lexington, Arlington, Belmont and Waltham, where it is very generally distributed, frequenting both high and low ground, and evergreen as well as deciduous trees. Its favorite haunts, however, are densely shaded rocky hillsides and dry upland woods deeply carpeted with dead leaves. Here its wiry, monotonous song may be heard at all hours of the day and in every kind of weather from the latter part of April to near the close of summer. Even when the birds are silent, as they rarely are for many consecutive minutes, at least in May and June, they are not likely to be overlooked, for they have almost no fear of man, and their sharply contrasted black and white or grayish markings and active movements make them peculiarly conspicuous. Especially so are they when seen, as is usually the case, on the trunks or larger branches of forest trees. Around and along these they wind and clamber, somewhat more hurriedly and less systematically than do Nuthatches, Woodpeckers or true Creepers (*Certhia*) and otherwise after a fashion peculiarly their own. One would not expect birds so eminently arboreal by habit to hatch and rear their young on the ground, but that is where they build their nests, usually at the foot of a tree or at the base of a ledge, frequently under the shelter of a projecting root or rock, and almost invariably in beds of oak leaves or of pine

needles. This explains, no doubt, why Black and White Creepers are chiefly confined in summer to the rougher and wilder portions of the Cambridge Region. There are few ledges and no very deep accumulations of dead leaves in such woods and thickets as remain in Cambridge and in the eastern parts of Watertown and Belmont.

After the young Creepers have become strong of wing and quite able to shift for themselves they, with their parents, join the troops of small insectivorous birds which, having laid aside family cares and the bitter sexual jealousies that alienate the males from birds of their own kind and sex during the breeding season, are now free to roam the woods together and to enjoy, to the utmost, the few short weeks which remain before most of them must start on the long and perilous journey southward.

These 'mixed flocks,' as they are called, have been frequently described by writers; it may be well, however, to say a few words about them in this connection, for they are among the most interesting of all bird gatherings, and in the Cambridge Region they are made up chiefly of species which are still to be considered in the present Memoir. They vary greatly in size and composition, at different times and in different localities. Beginning to form early in July they are likely to include, by the first of August, practically all the small, forest-haunting birds which are to be found in the immediate neighborhood. Woods less than twenty acres in extent seldom harbor more than a single flock, but in those covering one hundred or more acres several different flocks may be seen in the course of a single day. Most of the flocks contain one or more families of Chickadees with perhaps a few White-bellied Nuthatches and almost certainly a Downy Woodpecker or two. These species often constitute the resident and more or less permanent nucleus of a flock which, although subject to frequent and at times very considerable changes as to numbers and make-up, is not completely and finally disbanded until the following spring. Its shifting or temporary members fall into three classes: (1) summer residents—most of which depart for their winter homes in the south before the first of September; (2) migrants bred further to the northward and bound further to the southward—few of which remain after the last of October; and (3) winter visitors from the north—some of which arrive as early as the middle of September.

The largest and most interesting 'mixed flocks' are found in August when they are likely to include representatives of most of the smaller wood-frequenting birds which are summer residents of eastern Massachusetts, although the majority of these leave for the south earlier than is ordinarily supposed and sometimes before the end of July. Towards the close of August there is usually a marked and perhaps very considerable influx of migrants from further north, some of which linger for days in succession, others for but a single day. Thus

the flocks are subject to frequent and interesting mutations of membership. During the early part of August they are nearly sure to contain—in addition to the omnipresent Chickadees and Downy Woodpeckers—Wood Pewees, Least Flycatchers, Scarlet Tanagers, Red-eyed Vireos, Yellow-throated Vireos, Black and White Creepers, Nashville Warblers, Black-throated Green Warblers, and Oven-birds. There is usually a larger variety than this and occasionally one may meet with a gathering which comprises fifteen or twenty different species represented by seventy-five or a hundred individuals. On such occasions it is difficult to identify all the members of the flock, for they are constantly in motion and also concealed, during much of the time, among dense foliage, while most of them are in immature plumage. They may be seen to the best advantage when found on the borders of some sunny opening hemmed in on every side by pines, hemlocks, oaks, maples and birches or by alders, viburnums and other tall shrubs. Sometimes there will be a dozen or more birds collected in the top of a single tree or bush and perhaps thrice as many within a space of a few square rods. As they hop and flit from twig to twig they keep the foliage constantly agitated. Prematurely ripened, yellow leaves are dislodged by their movements and sent fluttering to the ground. In the early morning they shake down many a shower of sparkling dewdrops. They are incessantly chirping, scolding and calling to one another and every now and then an adult male utters, more or less brokenly and listlessly, a few notes of its spring song. Still lighter sounds which they produce, such as that of their wings striking against the leaves, or of their mandibles snapped at flying insects, may be heard at intervals when the air is calm. Altogether it is a somewhat bewildering as well as most fascinating experience to be closely surrounded by such a swarm of active, graceful and attractively colored little creatures most of whom are so trustful by nature or so busily engaged in searching for food that they pay scarce any heed to the near presence of the human observer. They are far too restless, however, to remain long in any one spot. Suddenly, without apparent incentive but probably at a signal of some kind given by one of the older birds, the members of the flock begin leaving the place in quick succession, all moving off in the same general direction and so rapidly that it is not always easy to keep up with them. Many disappear abruptly and mysteriously or are lost to sight among the foliage after flying only a few yards. Some swing from tree to tree in deep, gliding curves or loops. Others take longer and more direct flights. Still others—the younger and giddier birds, no doubt—pursue one another madly through and over the treetops or just above the surface of the ground, turning, doubling, twisting and performing all manner of wonderful and intricate evolutions. Within the space of a minute or less the entire host may range beyond sight and hearing unless promptly pursued. But its members are sure to reassemble at no great distance to resume their tireless search for food.

Thus they wander and drift from place to place, the social, care-free little birds, visiting by turns every nook and corner of the wood and enlivening even its darkest and gloomiest recesses by their animated movements, bright plumage and joyous calls. Their revels are often interrupted, however, by that self-appointed messenger of death, the Sharp-shinned Hawk. Glancing through the trees almost as swiftly and quite as silently as a shaft of sunlight, he seizes some hapless victim and scatters the other members of the flock. A little later olive-green and yellow feathers drift from the pine or oak where the Hawk has settled to devour his prey.

195. *Helmitheros vermivorus* (Gmel.).

WORM-EATING WARBLER.

Casual visitor in early autumn — only one valid record.

The only Worm-eating Warbler known to have been found in the Cambridge Region was shot by Mr. H. M. Spelman on September 19, 1881, in some swampy maple woods which then extended (they were cut down about sixteen years later) along the south bank of Little River from Beech Island nearly to the outlet of Smith's Pond. Although often inundated in spring, this swamp could usually be traversed dry-shod in early autumn, when it attracted a great number and variety of birds. Mr. Spelman tells me that he met with the Worm-eating Warbler near its eastern borders. The bird was in a dense thicket and apparently alone. Being unable to get a clear view of it, he began 'screeching,' when it approached him within a few yards, climbing and flitting among the stems of some low bushes where it offered an easy mark for his collecting-pistol. The specimen, a female¹ in perfect autumn plumage, is preserved in his collection. It was originally reported by him in the 'Bulletin of the Nuttall Ornithological Club.'²

There is an ancient and now nearly forgotten record by Peabody,³ of a supposed nest of the Worm-eating Warbler which "was discovered in Cambridge by Mr. Rotch, who gave a specimen of the eggs to Dr. Brewer." Dr. Allen, however, was afterwards "informed by Dr. Brewer that the nest referred to by Mr. Peabody . . . 'was, without doubt, a Nashville Warbler's.'"⁴

¹ No. 139, collection of H. M. Spelman.

² H. M. Spelman, Bulletin of the Nuttall Ornithological Club, VI, 1881, 246.

³ W. B. O. Peabody, Storer and Peabody, Reports on the Fishes, Reptiles and Birds of Massachusetts, 1839, 312.

⁴ J. A. Allen, American Naturalist, III, 1870, 577.

[*Helminthophila pinus* (Linn.). BLUE-WINGED WARBLER. BLUE-WINGED YELLOW WARBLER. Mr. Guy Emerson has reported¹ seeing a Blue-winged Warbler at Waverley on May 29, 1902. The bird was among some shrubs and small trees growing along the banks of a brook which flowed through a meadow. It "was not shy," and Mr. Emerson "had excellent opportunity, sometimes from within three or four feet, to observe all" its "distinctive markings." He also heard "the two-note song" which was "repeated continuously during the hour or more" he "spent in the vicinity." He thinks "there were two birds there," but is "positive of only one, an adult male."

Unfortunately this record cannot be accepted with entire confidence. At the time of making it Mr. Emerson was a very young and inexperienced observer who, moreover, had had no previous acquaintance with the Blue-winged Warbler in life. It is not improbable, however, that the bird seen by him at Waverley was a Blue-winged Yellow Warbler, for the species has been reported on more or less good authority from Dedham,² West Roxbury³ and Dorchester,⁴ and there is no reason why it should not occasionally visit the Cambridge Region.]

196. *Helminthophila chrysoptera* (Linn.).

GOLDEN-WINGED WARBLER. GOLDEN-WING.

Rather common summer resident.

SEASONAL OCCURRENCE.

May 7, 1896, two males seen, Lexington, W. Faxon.

May 12 — August 25.

August 28, 1886, one ad. female⁵ taken (Concord), W. Brewster.

NESTING DATE.

June 1, 1897, nest⁶ and five eggs, Arlington, W. Faxon.

In June, 1874, I found several pairs of Golden-winged Warblers settled for the season and no doubt breeding, about half a mile to the westward of the Waverley Oaks, in Waltham, and in July of that same season I met with an adult female, accompanied by three young, not far from Arlington Heights. If the species inhabited any part of the Cambridge Region before the year just

¹G. Emerson, Auk, XIX, 1902, 291.

²E. A. Samuels, Ornithology and Oölogy of New England, 1867, 213.

³R. Deane, Bulletin of the Nuttall Ornithological Club, III, 1878, 188.

⁴F. H. Brackett, Auk, XV, 1898, 59.

⁵No. 11,721, collection of William Brewster.

⁶No. 3656, collection of William Brewster.

mentioned, it was overlooked by several keen and diligent collectors, among whom may be mentioned Mr. H. W. Henshaw and Mr. Ruthven Deane. It has since increased in numbers and extended its range until at the present time it is rather generally and commonly distributed in summer throughout most of the country lying to the northward of the Lyman estate in Waltham and to the westward of the town centers of Waverley, Belmont and Arlington. It frequents deciduous woods and thickets, preferring to all other places springy runs shaded by gray birches, old pastures growing up to birches and wild apple trees, and dry hillsides covered with a young sprout growth of oak, hickory or maple. As a rule it shuns evergreen trees, but at its seasons of migration I have occasionally seen it feeding, with Warblers of other species, in the tops of large white pines. In 1883 a male was shot by Mr. H. M. Spelman on May 14, and a female by Mr. Charles R. Lamb on May 18, among the large hemlocks in the grove at Fresh Pond. I, also, have found the species within the limits of the city of Cambridge on one occasion—August 21, 1875, when I killed a young female in full autumn plumage in the Maple Swamp. Miss Bertha T. Parker tells me that she saw an adult female near the Museum of Comparative Zoölogy (in Palfrey's Woods) on May 9, 1900.

197. *Helminthophila rubricapilla* (Wils.).

NASHVILLE WARBLER.

Abundant transient visitor and not uncommon summer resident.

SEASONAL OCCURRENCE.

April 28, 1891, one heard, East Lexington, W. Faxon.

May 5—September 15.

September 25, 1890, one seen, Arlington, W. Faxon.

NESTING DATES.

May 25—June 1.

Nuttall, apparently, did not meet with the Nashville Warbler living, although he states¹ that it "occasionally proceeds as far north as . . . the neighborhood of Salem in this state." In common with Audubon and Wilson he regarded it as

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 413.

a rare species and believed that it was chiefly confined to regions south of New England. Dr. Samuel Cabot once told me that he was very sure it did not occur regularly in eastern Massachusetts when he was at Harvard College (1832-1836). The first specimen he saw was found dead in a barn in Brookline at the close of an autumnal storm which occurred during this period. Soon afterwards a few birds began to appear every season. They increased in numbers, gradually but steadily, until they had become so common that in 1842 he obtained ten specimens in the course of a single morning.

In 1868, and for some fifteen years later, I found Nashville Warblers breeding rather numerous in Waltham, Lexington, Arlington and Belmont, usually in dry and somewhat barren tracts sparsely covered with gray birches, oaks or red cedars, or with scattered pitch pines. A few birds continue to occupy certain of these stations, but in all of the towns just mentioned the Nashville Warbler is less common and decidedly less generally distributed in summer now than it was twenty-five or thirty years ago.

For a week or two in May, when they are passing northward on migration, Nashville Warblers are often abundant throughout most of the Cambridge Region. At this season they resort freely to apple orchards near farmhouses and by no means rarely to our city parks and gardens. During the return flight, which takes place late in August and early in September, they frequent woodlands almost exclusively and are seldom very numerously represented.

198. *Helminthophila celata* (Say).

ORANGE-CROWNED WARBLER. ORANGE-CROWN.

Rare transient visitor in autumn.

SEASONAL OCCURRENCE.

September 30, 1885, one ad. male¹ taken, Belmont, H. W. Henshaw.

October 5—November 15.

November 28, 1891, two seen, Cambridge, S. W. Denton.

Until somewhat recently I have believed the Orange-crown to be one of the very rarest of our migratory Warblers, but the experiences which I am about to relate would seem to indicate that it may visit eastern Massachusetts oftener

¹ No. 10,908, collection of William Brewster.

than is generally supposed and chiefly at a season when almost no one is on the watch for it. The only published mention of its occurrence in the Cambridge Region which has hitherto appeared is, I believe, that, in the 'Auk,'¹ relating to a specimen in my collection which Mr. H. W. Henshaw took in Belmont on September 30, 1885. This bird, an adult male in full autumn plumage, was feeding in company with several Yellowrumps among scattered gray birches near the western end of Marsh Street, not far from Rock Meadow.

Since the record above mentioned was made the Orange-crowned Warbler has been seen in our garden in Cambridge on several different occasions. The first of these was November 10, 1891, when a bird appeared in a leafless bush directly under one of the windows of my museum. Standing just within the window, Mr. H. W. Henshaw, Mr. S. W. Denton and I watched it for several minutes. It was within ten feet of us and in a clear light, so that we could not well have made any mistake as to its identity.

I was absent from Cambridge during the remainder of this month, but on my return Mr. Denton handed me the following notes:—

November 25. "An Orange-crowned Warbler came into the trees in front of my window twice today. I tried to shoot it, but was unable to do so."

November 28. "Saw three *H. celata* in the garden today and secured one of them."

The specimen² taken on November 28, has puzzled some of our best ornithologists. In respect to its general coloring it closely resembles *H. celata*, and Dr. J. A. Allen, Mr. D. G. Elliot and Mr. Frank M. Chapman have expressed a belief that it is a hybrid between that species and *Dendroica aestiva*. Mr. Robert Ridgway, however, agrees with me in considering it merely an abnormally dark example of the Yellow Warbler. As to the other two birds seen by Mr. Denton, there can be little doubt that he was correct in identifying them as Orange-crowned Warblers. At least it would seem highly improbable that so many Yellow Warblers could have occurred at this late date, or that, if occurring, all would have possessed the exceptionally dark and peculiar plumage which characterizes the bird that was secured.

In November, 1900, our garden was again visited by Orange-crowned Warblers. On the 9th of the month my assistant, Mr. Walter Deane, called my attention to one that was flitting about in a pear tree within a few yards of his window (the same window mentioned in connection with the experiences of 1891). I recognized it almost at a glance, and after watching it for a few minutes shot

¹ W. Brewster, Auk, III, 1886, 278.

² No. 48,649, collection of William Brewster.

it.¹ It proved to be a young male. As I was skinning it, half an hour later, another bird of the same species, but duller-colored than the first, appeared in the same pear tree, where it remained for several minutes, uttering a sharp, metallic *chip*, rather Fringilline in character and recalling the alarm note of the White-crowned Sparrow. On the 23d of the same month still another Orange-crowned Warbler was seen in the garden. It was very tame, and I had an excellent view of it as it flitted about in the branches of an old red cedar directly over me. It was a highly colored individual, with more than the usual amount of yellowish on the under parts. I did not molest it, and it returned to the garden the following day, when Mr. Deane got within eight feet of it as it was hopping about only a few inches above the ground in a barberry bush. Mr. O. A. Lothrop saw an Orange-crowned Warbler in Belmont on November 17 of the year last mentioned.

On the morning of November 7, 1904, Mr. Walter Deane again noted an Orange-crowned Warbler in our garden. It was feeding among some asters, within a foot or two of the ground. Later in the day it was seen in a dwarf apple tree. Mr. Deane was at one time within eight or ten feet of it. He assures me that it "exactly resembled" the bird which I shot and which he, also, saw living, on November 9, 1900.

My latest record of the appearance of the Orange-crowned Warbler in our garden concerns a bird which I found on the morning of September 30, 1905, directly in front of the museum, among some herbaceous plants growing about the edge of a little artificial pond. Like most of the representatives of its species which have been noted in the garden, this bird was very tame, permitting me to approach within seven or eight feet of it and paying little or no heed to my presence as long as I remained motionless. I watched it closely for upwards of fifteen minutes. During this time it ranged over a space of only a few square yards, although it was incessantly in motion, flitting, hopping and climbing about among the stems of the asters and goldenrods, where I saw it capture three large, smooth-skinned caterpillars. These it devoured, not without difficulty, after first reducing them to masses of shapeless pulp by stabbing and violently shaking them with its bill. At frequent intervals it uttered a sharp chirp very like that of the Nashville Warbler.

¹No. 30,439, collection of William Brewster.

199. *Helminthophila peregrina* (Wils.).

TENNESSEE WARBLER.

Transient visitor, of irregular and uncommon occurrence in spring, exceedingly rare in autumn.

SEASONAL OCCURRENCE.

May 10, 1900, one seen, Arlington, Bertha T. Parker.

May 15 — 25.

May 26, 1876, two males heard, Cambridge, R. Deane.

September 10, 1880, one female¹ taken, Watertown, H. M. Spelman.

The instances known to me of the local occurrence of the Tennessee Warbler are as follows:—

On May 24, 1869, I shot a male and a female of this species in oak woods just to the westward of Mount Auburn in East Watertown. Both birds were in the tops of tall trees; the male was singing freely. Four male Tennessee Warblers were killed in apple trees in Newtonville by Mr. C. J. Maynard "between the 18th and 24th" of this same month.²

On May 21, 1874, I found a Tennessee Warbler among some gray birches in Waltham, about half a mile to the westward of the Waverley Oaks. It was a male and in full song.

On May 23, 1875, I saw a male of this species in our garden in Cambridge. It sang at frequent intervals.

On May 26, 1876, Mr. Ruthven Deane heard two birds singing in the trees near his father's house on Sparks Street, Cambridge.

On September 10, 1880, Mr. H. M. Spelman took a female Tennessee Warbler in East Watertown not far from the Arsenal. This bird was in a small tree by the roadside and was very tame. It furnishes the only instance known to me of the local occurrence of the species in autumn.

On May 22, 1882, two Tennessee Warblers were killed at Fresh Pond, one,³ a female, by Mr. H. M. Spelman, the other,⁴ a male, by Mr. C. F. Batchelder. Both birds were in willows growing on the shore of the pond near the Fresh Pond Hotel.

On May 19, 1892, and again on the following day, Mr. Walter Faxon saw two Tennessee Warblers together (in the same place on both occasions) on the eastern shore of Upper Mystic Pond.

On May 10, 1900, a Tennessee Warbler was seen in Arlington by Miss Bertha T. Parker.

¹ No. 155, collection of H. M. Spelman.

² C. J. Maynard, *Naturalist's Guide*, 1870, 100.

³ No. 154, collection of H. M. Spelman.

⁴ No. 1598, collection of C. F. Batchelder.

200. *Compsothlypis americana usneæ* Brewst.

NORTHERN PARULA WARBLER. USNEA WARBLER. BLUE YELLOW-BACKED WARBLER.
BLUE YELLOW-BACK.

Transient visitor, very common in spring, not uncommon in early autumn.

SEASONAL OCCURRENCE.

April 26, 1865, one taken, Cambridge, D. C. French.

May 1 — 28.

June 7, 1892, one male¹ taken, Waltham, C. F. Batchelder.

August 27, 1884, one im. male² taken, Maple Swamp, W. Brewster.

September 10—30.

November 19, 1881, one³ taken, Cambridge, J. H. Noble.

The Usnea Warbler, or Blue Yellow-back, as we used to call it, breeds sparingly in Concord and Wayland and I have taken its nest in the Middlesex Fells, but, as far as I am aware, it has been found within the Cambridge Region only at its seasons of migration. In May, when it is always common and sometimes really abundant, it often appears in our city or its suburbs. It also haunts apple orchards to some extent, especially when the trees are in blossom. It is seen most frequently and numerously, however, in deciduous woods, where it spends much of its time in the treetops, preferring those of the larger oaks and maples. During the return migration, which begins late in August and continues through September or even into October, the birds are ordinarily less common — or at least less conspicuous — than in spring and they are also more strictly confined to woodland. In autumn I have met with them oftenest in the Maple Swamp, and among gray birches in Arlington and Belmont, usually in company with Black-poll Warblers.

The nest above referred to was found on June 24, 1867, in a hemlock growing on a wooded slope near the southwestern extremity of Spot Pond. It is so unlike the usual nest of the Usnea Warbler that I published a description⁴ of it several years ago. As this appeared in a journal which is probably not accessible to many of the readers of the present Memoir, I will repeat its

¹ No. 5641, collection of C. F. Batchelder.

² No. 9495, collection of William Brewster.

³ J. H. Noble, Quarterly Journal of the Boston Zoölogical Society, I, 1881, 9.

⁴ W. Brewster, Ornithologist and Oölogist, XIII, 1888, 46-47.

substance in this connection. In shape and general plan of construction the nest closely resembles that of a Baltimore Oriole. It has no hole in the side but instead a wide-mouthed opening at the top through which the bird entered it as the Oriole enters her nest. The upper edges and sides were securely fastened to the fine terminal twigs of a drooping branch where the nest hung suspended among the evergreen foliage of the hemlock, precisely as the Oriole's hammock swings in the drooping spray of an elm. The Warbler's nest has a scanty lining of pine needles and fine grasses but it is otherwise composed entirely of *Usnea*, loosely woven or perhaps merely felted together, evidently by the parent birds. They must have been at some pains to collect this material, for the closest scrutiny on the part of a friend and myself failed to reveal more than a few small and scattered tufts of *Usnea* in the surrounding woods. Its scarcity in this locality explains, no doubt, why it had been used so comparatively sparingly and in such an exceptional way. The custom almost invariably followed by Warblers of this species is, of course, to select a large, pendant cluster of *Usnea* and, after making a small entrance hole in one side, to merely hollow out the interior for the reception of their eggs. Thus they save themselves most of the labor which the owners of this nest were obliged to perform.

201. *Dendroica tigrina* (Gmel.).

CAPE MAY WARBLER.

Rare transient visitor.

SEASONAL OCCURRENCE.

May 10, 1897, one male seen, Lower Mystic Pond, W. Faxon.

May 15—25.

May 25, 1871, one female taken, Cambridge, R. Deane.

August 25, 1884, one im. male¹ taken, near Mount Auburn, W. Brewster.

Partly because of its comparative rarity but also, no doubt, on account of the striking beauty of the male when attired in his full nuptial plumage, the Cape May Warbler possesses unusual interest and value in the estimation of our local observers and collectors. In view of this fact it may be worth while to give with some detail all the instances which my notes supply of the bird's occurrence in the Cambridge Region. They are as follows :—

¹ No. 9481, collection of William Brewster.

May 17, 1867. Early this morning I shot a male in our garden. It was in an apple tree and in full song.

May 23, 1868. Mr. Ruthven Deane saw a male in Waltham in dense pine woods interspersed with a few deciduous trees.

May 16 and 17, 1869. On the morning of the 16th a male appeared in a blossoming cherry tree that stood directly in front of a house in East Watertown (not far from Mount Auburn), where I was living at the time. When driven away from this tree he invariably returned to it a minute or two later, and in it he spent the whole of this as well as the greater part of the next day although there were dozens of other cherry trees in full bloom within a short distance. I have since learned that at its seasons of migration the Cape May Warbler frequently confines its ramblings during an entire day to the branches of a single tree — a habit unique, as far as I am aware, among diurnal North American birds.

May 21, 1870. I have a record of a male Cape May Warbler that was seen on this date somewhere in Cambridge or its immediate neighborhood, but just where or by whom, I cannot now remember.

May 25, 1871. Mr. Ruthven Deane shot a female in a Norway spruce near the head of Sparks Street, Cambridge.

May, 1875. On the 19th of this month Mr. Frank Whiting of Cambridgeport showed me two male Cape May Warblers, one of which he had taken on the 14th in Waltham, the other on the 17th in Waverley. He told me that on the latter date he had met with a number of the birds among some dense red cedars on a hillside not far from where the main driveway to the McLean Asylum now enters the grounds of that institution. I visited the place the next morning (that of May 20) and almost immediately heard a Cape May Warbler singing among the cedars, but after shooting it I searched the whole of the surrounding woods without discovering any others. Two days later, however, I noted another male in full song near the upper mill-pond in Waverley. The instance just mentioned is the only definite one which has come to my knowledge of the finding of more than one or two Cape May Warblers at any one locality in eastern Massachusetts during a single season, but Mr. C. J. Maynard has reported (*Naturalist's Guide*, 1870, 104-105) that "the late Dr. Henry Bryant once showed me quite a number of skins, which he said were taken in eastern Massachusetts, in spring, upon apple-trees when in bloom."

August 25, 1884. I shot a young male Cape May Warbler on this date in some dense cedar woods on the crest of a ridge immediately behind Mount Auburn. This instance is the only one known to me of the occurrence of the species in autumn in the Cambridge Region, but I have seen a specimen (a female) which was taken by Mr. A. M. Tufts at Lynn on August 18, 1880.

May 14, 1887. A male was shot by Mr. Richard Norton of Cambridge in an oak near the edge of some pine woods in Arlington.

May 12, 1890. I have a mounted specimen, a male, that was killed on this date in Arlington by Mr. J. R. Mann.

May 14, 1891. A male in full song was noted by Mr. Walter Faxon in East Lexington.

May 10, 1897. A male was met with by Mr. Walter Faxon at Lower Mystic Pond, Arlington.

May 15, 1901. A male was seen by Messrs. A. Vincent Kidder and Richard S. Eustis in the John C. Gray place on Brattle Street, Cambridge.

At first glance this array of evidence may seem to indicate that the Cape May Warbler is not, after all, so very infrequent a visitor to the Cambridge Re-

gion. It will be noticed, however, that during twenty-four — or two thirds — of the total thirty-six years which the records cover, the beautiful bird was not noted at all, and that during eleven out of the twelve years when it was observed only a single individual was seen each season. These facts appear to me to warrant the conclusion that the species is really one of the very rarest of the Warblers which visit us with any degree of regularity, especially if we also consider (1) that it is one of the most strikingly colored and easily identified of them all; (2) that it is a rather loud and very persistent singer; and (3) that, when with us, it is given to frequenting isolated trees near houses.

202. *Dendroica æstiva* (Gmel.).

YELLOW WARBLER. GOLDEN WARBLER. SUMMER YELLOW-BIRD.

Abundant summer resident.

SEASONAL OCCURRENCE.

April 23, 1897, six heard, Fresh Pond Swamps, A. S. Gilman and E. M. Davis.

May 1 — September 15.

September 29, 1893, one seen, Fresh Pond Swamps, W. Faxon.

November 28, 1891, one male (?)¹ taken, Cambridge, S. W. Denton.

NESTING DATES.

May 23 — 30.

Although the pretty little Yellow Warbler is one of our most familiar and abundant summer birds it is by no means to be seen everywhere in the Cambridge Region. It seldom occurs at any season in remote or extensive upland woods, and almost never in those which are largely composed of evergreen trees, but it sometimes frequents barberry or other bushes growing in retired rocky pastures and along country roadsides, while in several localities it is found rather commonly in thickets bordering brooks, ponds and meadows. Since time immemorial it has literally swarmed in the Fresh Pond Swamps, where I have known as many as a dozen nests to be found in the course of a single morning. It is also very generally and rather plentifully distributed in summer throughout most of the farming districts, where it nests in apple and pear orchards; in barberry or other bushes growing along old walls and fences; and in fruit trees or ornamental shrubbery close to houses. It still breeds in or near the town centers of

¹ No. 48,649, collection of William Brewster.

Lexington, Arlington, Belmont, Watertown and Waltham, and we continue to see its golden-yellow plumage and to hear its simple yet attractive song in many parts of Cambridge. But in these, as in most other localities which have become infested with English Sparrows, the Summer Yellow-bird has been diminishing in numbers for twenty years or more.

Yellow Warblers are seldom seen in Massachusetts after the middle of September, but I have a young male which Mr. S. W. Denton shot in our garden in Cambridge on November 28, 1891. As I have already said in another connection, the coloring of this specimen is so peculiar and so closely similar to that of the Orange-crowned Warbler that Dr. J. A. Allen, Mr. D. G. Elliot and Mr. F. M. Chapman are inclined to consider the bird a hybrid between *H. celata* and *D. æstiva*. Mr. Robert Ridgway, however, agrees with me in believing it to be an unusual example of the latter species, possibly representing some geographical race not as yet recognized or, perhaps, merely an abnormal phase of plumage. Its upper parts are dull, grayish olive-green, brighter and more yellowish on the rump and upper tail coverts. The under parts are pale yellowish olive, nearly uniform everywhere save on the throat, which is dull ashy faintly tinged with yellowish. The outer two pairs of tail-feathers have a narrow edging of yellow on their inner webs, and the greater and middle wing coverts are tipped and edged with greenish olive, forming two obscurely defined wing bars. In respect to all its structural characteristics, and also in size, the bird agrees perfectly with *D. æstiva*.

203. *Dendroica cærulescens* (Gmel.).

BLACK-THROATED BLUE WARBLER.

Rather common transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

May 5, 1896, one seen, Arlington, W. Faxon.

May 10—25.

June 3, 1890, one male heard, Cambridge, W. Brewster.

August 26, 1895, one ad. male seen, Cambridge, W. Brewster.

September 20—October 10.

November 3, 1904, one male seen, Cambridge, G. M. Allen.

The Black-throated Blue Warbler visits the Cambridge Region very regularly at its seasons of migration, but seldom in any considerable numbers. As a

rule it frequents dry upland woods, preferring those which include a mixture of deciduous and evergreen trees, and which contain at least a few white pines or hemlocks. In spring, however, we occasionally see it in our city gardens, and in autumn it often occurs in the Maple Swamp or in other similarly dense, moist covers. The male, by reason of his strikingly contrasted black, slaty blue, and white coloring and his peculiar, drawling song, is one of the most conspicuous of our Warblers, but the modest-garbed and rather shy or, at least, retiring female attracts comparatively little attention. It is unusual in this neighborhood to find the males and females together or indeed in company with other birds of their own kind and sex, but both sexes associate more or less freely with Warblers of other species.

204. *Dendroica coronata* (Linn.).

MYRTLE WARBLER. YELLOW-RUMPED WARBLER. YELLOWRUMP.

Abundant transient visitor in spring and autumn; a few birds usually pass the winter in one locality.

SEASONAL OCCURRENCE.

April 3, 1889, one male seen, Arlington, W. Faxon.

April 12 — May 20.

May 30, 1875, abundant, Cambridge, W. Brewster.

August 21, 1897, one seen, Arlington, W. Faxon.

September 1 — November 1. (Winter.)

November 26, 1889, flock of ten seen, Belmont, W. Faxon.

The Yellowrump, as it is familiarly called, is one of the most abundant of our Warblers at its seasons of migration. The bulk of the spring flight passes through eastern Massachusetts between April 25 and May 15, while the return movement in autumn takes place chiefly during October. In spring the birds haunt woodland for the most part, preferring deciduous groves or thickets about the edges of ponds and meadows, but also occurring very numerous among second-growth oaks, and more sparingly in evergreen trees, especially white pines and red cedars. My notes state that during the forenoon of April 25, 1868, I found "several thousand" Myrtle Warblers at Fresh Pond. It was snowing heavily at the time, but on the north side of the pond, near the water's edge, the snow melted as fast as it fell and the pebbly shores were bare. Here, for a distance of perhaps a quarter of a mile, the surface of the ground was

literally crowded with Yellowrumps, among which were intermingled Yellow Redpoll Warblers in lesser but still very considerable numbers.

In autumn the Yellowrump resorts almost as freely to open as to wooded country, frequenting stubble or cornfields in company with Sparrows of various species, flitting along fences or stone walls by the roadsides, and even alighting on houses, barns or other buildings. At this season, as well as in spring, we often see a few birds in densely populated parts of Cambridge. I have known them to appear abundantly in our garden in the earlier days, when there were extensive fields and orchards near at hand, but of late years they have not visited it in any numbers.

On January 27, 1868, I saw a Myrtle Warbler at Waverley within what are now the grounds of the McLean Asylum, feeding on the berries of a greenbrier vine, and on February 23, 1883, one was shot in the same locality by Dr. Arthur P. Chadbourne; on a hillside not far from Arlington Heights a few birds have been found nearly every winter since 1890 by Mr. Walter Faxon.

205. *Dendroica auduboni* (Townsend).

AUDUBON'S WARBLER.

Casual visitor in autumn; one record only.

The record, made over twenty years ago by Mr. Abbott M. Frazar¹ (now M. Abbott Frazar) of an Audubon's Warbler taken in the neighborhood of Cambridge, remains the only authentic one for New England. Mr. Frazar shot the bird on November 15, 1876, in Watertown, about a mile to the westward of Mount Auburn and not far from the Adams estate. The specimen, a young male,² is now in my collection. Although smaller than average examples of *auduboni*, it possesses the normal amount of yellow on the throat as well as all the other essential characters which serve to distinguish young birds of Audubon's Warbler, in winter plumage, from the more or less closely similar young of the Yellow-rumped Warbler. In short the doubts which Messrs. Howe and Allen have recently expressed³ respecting the original identification of this Watertown specimen are wholly without foundation.

¹ A. M. Frazar, Bulletin of the Nuttall Ornithological Club, II, 1877, 27.

² No. 6925, collection of William Brewster.

³ R. H. Howe, Jr., and G. M. Allen, Birds of Massachusetts, 1901, 107.

206. *Dendroica maculosa* (Gmel.).

MAGNOLIA WARBLER. BLACK AND YELLOW WARBLER.

Transient visitor, usually rather common in spring, not uncommon in autumn.

SEASONAL OCCURRENCE.

May 6, 1902, one seen, Belmont, R. Hoffmann.

May 12—25.

May 30, 1888, one seen, Cambridge Region, W. Faxon.

August 25, 1884, one im. female¹ taken, Watertown, W. Brewster.

September 10—25.

October 1, 1870, one seen, Belmont, W. Brewster.

I have known Magnolia Warblers to be really abundant in the Cambridge Region for days at a time, about the middle of May, but during average years no one observer is likely to note more than ten or a dozen birds in the course of a spring migration, while half that number would represent an exceptionally full record for a single autumn. In spring the species haunts extensive upland woods, especially such as abound in vigorous young white pines, hemlocks and red cedars. It also visits blossoming fruit orchards rather freely, and isolated rows or clusters of willows by no means rarely. I often see it in our garden, and it continues to appear sparingly in other densely populated parts of Cambridge. It used to occur very regularly and at times not uncommonly in the region just to the westward of Mount Auburn. Ever since I can remember, however, the Magnolia Warbler has been met with most frequently and numerously in the wilder portions of Arlington, Belmont, Lexington, and Waltham. In autumn, when it frequents deciduous trees much more than at other seasons, I have repeatedly found it among scattered gray birches near Rock Meadow and in dense thickets of alders or viburnums in the Fresh Pond Swamps.

Despite its liking for deep and solitary woods the Magnolia Warbler is a trustful and social little bird, showing almost no fear of man and consorting freely at times with Warblers of its own and several other species. In May we often hear its odd, emphatic and rather variable song of which one of the commonest forms can be closely rendered by the words *pretty-pretty-Rachel*.

¹ No. 9484, collection of William Brewster.

207. *Dendroica pensylvanica* (Linn.).

CHESTNUT-SIDED WARBLER. CHESTNUT-SIDE.

Abundant summer resident.

SEASONAL OCCURRENCE.

April 29, 1888, one male taken, Belmont, F. Bolles.

May 5 — September 10.

September 20, 1891, one seen, Lexington, W. Faxon.

NESTING DATES.

May 26 — June 5.

The Chestnut-sided Warbler, like the Nashville Warbler, has apparently become common and widespread since the days of Wilson, Audubon and Nuttall. These and other early ornithologists agreed in considering it a positively rare species. Nuttall states that "on the 22d of May (1830), a pair appeared to have fixed on their summer abode, near the summit of the Blue Hills of Milton," and that "on the 27th of June (1831) I observed a pair selecting food for their young, with their usual address and activity, by the margin of a bushy and secluded swamp on the west side of Fresh Pond, in this vicinity."¹ He also mentions a deserted and empty nest which he believed, evidently with good reason, had belonged to a Chestnut-sided Warbler, and which was found "in a hazel copse in a wood in Acton." But these few instances were apparently all that he was able to give of the occurrence of the bird in eastern Massachusetts.

Dr. Samuel Cabot told me a year or two before his death that when he was at Harvard College (1832-1836) the Chestnut-sided Warbler was certainly very rare in eastern Massachusetts, and that for some years later it was not common although it gradually but steadily increased in numbers after 1835. He added that his brother Mr. J. Elliot Cabot found what he believed to have been the first fully identified specimen of its nest, probably in the neighborhood of either Milton or Cambridge, although he did not mention the exact locality.

My personal acquaintance with Chestnut-sided Warblers began in 1866 when, on June 4, I chanced upon a nest containing three eggs, on the borders

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 381.

of the Pine Swamp. During the following two seasons I ascertained that the birds were breeding abundantly throughout most of the wilder parts of Belmont, Arlington and Waltham; very commonly on the wooded ridges and islands in the Fresh Pond Swamps; more sparingly on the hills immediately to the westward of Mount Auburn. They have since deserted both of the stations last named, but to the westward of the town centers of Arlington, Belmont and Waverley they may still be found almost everywhere, in places suited to their habits, and in numbers which have not diminished perceptibly (excepting in a few localities) within the past thirty years. They nest chiefly on the edges of upland woods, in neglected fields and pastures, along the courses of brooks, and on country roadsides. In general terms they may be said to occupy most of the country which the Yellow Warblers avoid, but in a few localities the two species breed together in the same thickets. Both birds, as a rule, shun evergreen trees, although the Chestnut-sided Warbler occasionally frequents white pine woods in late summer, especially when it is consorting, in 'mixed flocks,' with such pine-loving species as the Chickadee and the Black-throated Green Warbler.

In the Cambridge Region the nest of the Chestnut-sided Warbler is almost invariably built in some low bush or slender young sapling, not less than two, nor more than four, feet above the ground. Among the bushes most favored by the birds are the hazel, the blackberry, the raspberry, the barberry and the high blueberry. At Concord, Massachusetts, I once found an empty and deserted nest which I feel sure had been constructed by a Warbler of the present species, but which was placed among the upright fronds of a royal fern — a most unusual situation.

The Chestnut-sided Warbler sometimes visits rather densely populated parts of Cambridge, but only, as far as I can learn, during the spring migration and then in no great numbers. My notes record less than a dozen instances of its appearance in our garden during the past quarter of a century. Nor did it occur here oftener in still earlier times when our grounds and those of our neighbors were much more extensive than they are at present. It is difficult to understand why a bird so common throughout most of New England should show itself so seldom in places much frequented by man. It evidently has no more fear or distrust of him than have such familiar species as the Chippy, the Redstart and the Yellow Warbler. One would suppose that for it, as for so many of the smaller migratory birds, cultivated trees and shrubbery would serve, on occasion, in place of forest growths. But the Chestnut-sided Warbler is apparently too devoted to its customary woodland haunts to often accept as even temporary substitutes for them the urban parks and gardens in which other forest-loving species of infinitely shyer and more retiring disposition seem quite content to linger for a time, when halting for rest and food during the long and arduous journeys to and from their breeding grounds.

208. *Dendroica castanea* (Wils.).

BAY-BREASTED WARBLER. BAY-BREAST.

Transient visitor in late May and early autumn, ordinarily of rather rare occurrence.

SEASONAL OCCURRENCE.

May 11, 1900, one seen, Cambridge, W. Brewster.

May 15 — 25.

May 28, 1872, one ad. female¹ taken, Watertown, W. Brewster.

August 23, 1884, one im. female taken, Watertown, W. Brewster.

September 12 — 28.

September 30, 1871, one im. taken, Maple Swamp, H. W. Henshaw.

Bay-breasted Warblers visit the Cambridge Region quite regularly at their seasons of migration, but seldom at all numerous. During the spring flight northward, which passes late in May, they usually occur singly and in dense woods, especially such as consist largely of white pines, hemlocks or other coniferous trees. A remarkable exception to this rule happened in 1872. On May 26 of this year several birds were seen in the heart of Cambridge, and on the following morning I found upwards of *forty*, most of them females, feeding in the tops of some large oaks which, at that time, covered the crest and sides of a hill just to the westward of Mount Auburn. Five or six females lingered in these woods over the 29th, but no birds of either sex were noted here afterwards during that season. Bay-breasted Warblers were again observed in considerable numbers in Cambridge and its immediate neighborhood on May 21 and 22, 1882, when Mr. H. M. Spelman took several specimens in the hemlock grove at Fresh Pond.

As may be gathered from what I have just written, the Bay-breasted Warbler is a decidedly rare visitor to the more densely populated parts of our city, where, as far as I can learn, it has been noted only in spring. If I remember rightly (my notes, unfortunately, are not definite regarding this particular point) two or three birds were seen in the elms along Brattle Street, and as many more among some pines at the rear of the Longfellow estate, on May 26, 1872. During the incursion which happened in 1882, Mr. C. F. Batchelder took a male in some willows bordering on Vassall Lane (near where

¹ No. 2355, collection of William Brewster.

it was intersected by Appleton Street) on May 21, and he has given me a note of another bird, also a male, which he saw in the trees near his house on Kirkland Street on May 25 and 26, 1890. I have but two records for our own place, the first, of a male which I found in the garden on May 26, 1872, the other, of a bird of the same sex which Mr. Walter Deane noted there on May 11, 12, 13 and 15, 1900.

The southward flight of Bay-breasts sometimes begins as early as August 23 and usually lasts nearly through September. At this season the birds are given to frequenting gray birches and dense, swampy maple woods and are nearly always found in company with Black-poll Warblers. As the young of the two species are closely similar in general appearance and behavior, it is often difficult to distinguish them, especially when they are in the tops of tall trees.

209. *Dendroica striata* (Forst.).

BLACK-POLL WARBLER. BLACK-POLL.

Abundant transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

May 8, 1894, one seen, Arlington, W. Faxon.

May 12 — June 5.

June 6, 1892, Lexington, W. P. Hadley.

September 1, 1884, one female¹ taken, Watertown, W. Brewster.

September 4, 1899, one male seen, singing, Cambridge, W. Faxon.

September 8 — October 20.

November 6, 1896, one im. seen, Cambridge, W. Brewster.

A few Black-polls sometimes reach us by May 10, or even a day or two earlier, but the spring migration does not often begin in earnest until after the middle of the month, and seldom attains its maximum proportions before the 25th. It invariably continues nearly or quite to the end of May, and occasionally does not wholly end before the close of the first week of June. At the height of the movement the birds are always common and often so very numerous and widely distributed that they may be said to flood the entire Cambridge Region. Indeed there are times when they occur abundantly almost everywhere — throughout upland woods (whether composed of evergreen or decidu-

¹ No. 9509, collection of William Brewster.

ous trees); in maple swamps and dense thickets bordering brooks and ponds; in blossoming apple orchards; and scarcely anywhere more plentifully than in our city parks and gardens. The return movement in autumn extends over a longer period than in the case of any other species of Warbler excepting the Yellow-rump, for the first Black-polls sometimes appear soon after the middle of August (I have an adult male that I took at Concord on August 17, 1886), and the last stragglers do not always depart before the close of the first week of November. The bulk of the flight passes, however, during the month of September. The birds are then less conspicuous than in May, by reason of their duller plumage and comparative silence, but they are even more numerous and also more ubiquitous, for they not only revisit all the localities where they occur in spring, but in addition are often seen flitting along fences and stone walls that traverse open country or feeding on the ground, in company with various species of Sparrows, in grain stubbles and weed-infested fields.

210. *Dendroica blackburniæ* (Gmel.).

BLACKBURNIAN WARBLER. BLACKBURNIAN.

Transient visitor, uncommon in spring, rare in autumn. One instance of occurrence during the breeding season.

SEASONAL OCCURRENCE.

May 7, 1892, one seen, Arlington, W. Faxon.

May 12 — 24. (Summer?)

May 30, 1867, one ad. male taken, Cambridge, W. Brewster.

September 16, 1878, one im. male taken, Waltham, E. A. and O. Bangs.

September 23, 1889, one seen, Waltham, W. Faxon.

We see the beautiful Blackburnian oftenest during the latter part of May, in extensive tracts of upland woods, where it spends much of its time in the tops of the larger trees, showing a decided preference for hemlocks and white pines. In Cambridge I have repeatedly observed it in our garden and the immediate neighborhood, usually in tall elms or in blossoming apple trees. It is exceptional to note more than one or two birds in the course of a single day, but Mr. H. M. Spelman tells me that he and Mr. C. F. Batchelder found no less than six in the hemlock grove at Fresh Pond on May 21 and 22, 1882, when there was an unusually heavy flight of Warblers of various kinds. I have never met with the Blackburnian in autumn in the Cambridge Region, but the Messrs.

E. A. and O. Bangs have a young male which they took in Waltham on September 16, 1878, and Mr. Walter Faxon saw a single bird in that town (near Prospect Hill) on September 23, 1889, and another in East Lexington on September 19 of the latter year.

It is not improbable that the Blackburnian Warbler occasionally breeds in the region covered by the present Memoir, for Mr. Faxon found a male in full song from June 3 to 26, 1891, in Tophet Swamp, North Lexington. Only a few miles further to the west and southwest, in Concord and Sudbury, the Blackburnian is a regular and rather common summer resident wherever there are extensive woods of large white pines.

211. *Dendroica virens* (Gmel.).

BLACK-THROATED GREEN WARBLER.

Abundant summer resident.

SEASONAL OCCURRENCE.

April 20, 1896, one seen, Belmont, W. Faxon.

May 1 — October 15.

November 3, 1898, one¹ seen, Cambridge, R. Hoffmann.

NESTING DATES.

June 5 — 10.

Nuttall considered the Black-throated Green Warbler a "rather rare species,"² and believed that it bred chiefly to the northward of Massachusetts, although in June, 1830, he met with a nest containing eggs on the Blue Hills at Milton and a pair which "had probably a nest in the vicinity of the woods of Mount Auburn in Cambridge."³ In 1865, and for some ten years later, I found Black-throated Green Warblers breeding sparingly in the region immediately to the westward of Mount Auburn, and also in the Pine Swamp. In many parts of Arlington, Belmont, Waverley, Waltham and Lexington, the birds were then, as they have continued to be ever since, among the most abun-

¹ R. Hoffmann, *Auk*, XVI, 1899, 196.

² T. Nuttall, *Manual of the Ornithology of the United States and of Canada. The Land Birds*, 1832, 376.

³ *Ibid.*, 378.

dant of our summer Warblers. Their favorite haunts in these towns are extensive, well-matured woods of white pines, and rocky pastures growing up to pitch pines or to Virginia junipers. In several places of this character, on the crest of the elevated ridge that extends from Arlington to Waverley, Black-throated Green Warblers are so very numerous at times, even at the height of the breeding season, that the songs of three or four different birds may be heard coming from as many different directions at once. Their nests are usually concealed among the dense foliage of one or another of the evergreen trees just mentioned, and placed at a height of from ten to thirty feet above the ground on rather stout, horizontal branches or in upright forks of the main stems of the trees. This rule is not without exceptions, for I have known the birds to build in deciduous trees, such as birches and elms, and I have a nest that I found on June 12, 1869, in a barberry bush growing in an open pasture at Arlington Heights, one hundred yards or more from the nearest woods. It contained four eggs on which the female Warbler was sitting. I saw her on the nest and shot her just after she had left it. Another nest of the Black-throated Green Warbler in my collection was found in a still more remarkable situation, *viz.*, *on the ground*, "among a large clump of ferns in a very low and damp place under a heavy growth of hemlocks" (Auk, XII, 1895, 184). It was taken—with a full set of eggs—at Chester, Connecticut, on June 18, 1894, by Mr. C. H. Watrous, and was absolutely identified by the capture of the parent bird.

In late summer and early autumn the present species is represented in most 'mixed flocks' of small, forest-haunting birds, and in such of these gatherings as frequent white and pitch pine woods it often occurs more numerous and conspicuously than any other member of its family. But despite its inborn preference for evergreen trees, which it never wholly lays aside at this or indeed any season, it accompanies the motley troops, with which it associates during July and August, on rambles which lead through covers of every conceivable kind, including low oak scrub, scattered growths of gray birches, old apple orchards and even thickets of alders and barberry bushes that have sprung up in neglected pastures and along country roadsides.

The Black-throated Green Warbler is especially abundant in the Cambridge Region during migration when it appears practically everywhere and not at all infrequently in our garden and other densely populated parts of Cambridge. The spring flight begins late in April and continues well into May. In autumn most of the birds pass to the southward of Massachusetts before the close of September, but a few linger into October, and stragglers are occasionally seen in November.

212. *Dendroica vigorsii* (Aud.).

PINE WARBLER. PINE-CREEPING WARBLER. PINE CREEPER.

Locally common summer resident ; of occasional occurrence in winter, also.

SEASONAL OCCURRENCE.

March 29, 1903, one seen and heard, Arlington, J. R. Mann.

April 10 — October 20. (Winter.)

November 25, 1869, one taken, Watertown, W. Brewster.

NESTING DATES.

May 20 — 30.

Excepting at its seasons of migration, when it occasionally appears in apple orchards and even in city gardens, the Pine Warbler is seldom seen far from the trees from which it takes its name. In the Cambridge Region, as well as elsewhere in eastern Massachusetts, it shows a marked preference for pitch pines. Throughout Belmont, Arlington, Lexington and Waltham, wherever these trees grow numerous, whether apart from other species or intermingled with white pines, hemlocks, cedars and various kinds of deciduous trees, the Pine Warbler is almost sure to be found from the 10th or 15th of April nearly to the close of October or even well into November. Thus it arrives earlier in spring and lingers later into the autumn than do any of the other members of its family which pass the summer in our neighborhood. Although somewhat less social than most of them, it often joins the large 'mixed flocks' which they and other small insectivorous birds form in July and August.

Dr. Walter Woodman says that the Pine-creeping Warbler sometimes passed the summer in Norton's Woods between 1866 and 1874. About the same time, as Mr. Henshaw has testified in a letter printed in the Introduction to the present Memoir, "a few pairs" nested in certain groves of pitch pines near Brookline Street, Cambridgeport. Pine Warblers have long since ceased to frequent the latter locality, while at the former they are now seen only during migration. They have also nearly if not quite deserted the region lying immediately to the westward of Mount Auburn where, up to about 1880, their mellow, trilling songs were among the most frequent, as well as characteristic and pleasing, sounds of spring and early summer. As lately as June 18, 1898, however, I heard a bird singing in the tall white pines at Elmwood

where it may have had a mate and nest. Another, which, no doubt, was either a migrant or a chance straggler from some distant woodland, paid our garden a brief visit on August 2, 1893.

A female Pine Warbler¹ was shot by Mr. Walter Faxon in Belmont on December 15, 1890. The species has been found at Framingham, Massachusetts, on December 5 (1891) and January 1 (1892); at Duxbury, Massachusetts, on December 27 (1882).

213. *Dendroica palmarum* (Gmel.).

PALM WARBLER. REDPOLL WARBLER.

Uncommon transient visitor in autumn.

SEASONAL OCCURRENCE.

September 7, 1881, one female² taken, Belmont, H. M. Spelman.³

September 15 — October 10.

October 28, 1895, one im. seen, Cambridge, W. Brewster.

December 6, 1902, one seen, Cambridge, R. Hoffmann.

This, the typical, form of the Palm Warbler was first detected in our region by Mr. H. M. Spelman who shot a female⁴ on September 13, 1880, in the neighborhood of Gray's Woods, Cambridge, and another on September 7, 1881, in Belmont where two more specimens were obtained by Mr. Charles R. Lamb on September 29, 1883.⁵ Since 1890 Mr. Walter Faxon has taken a number of Palm Warblers (most of which are in my collection) in Belmont and Arlington, at dates ranging from September 23 to October 6. As a rule the southward migrations of the Palm Warbler begin and end somewhat earlier than those of the Yellow Redpoll Warbler, but straggling representatives of the western bird sometimes linger late into the autumn. I saw one in our garden on October 28, 1895, and another was noted in Norton's Woods by Mr. Ralph Hoffmann on December 6, 1902, when the ground was deeply covered with snow and the thermometer only 10° above zero.

¹ No. 29,600, collection of William Brewster.

² No. 250, collection of H. M. Spelman.

³ H. M. Spelman, Bulletin of the Nuttall Ornithological Club, VII, 1882, 54.

⁴ No. 249, collection of H. M. Spelman.

⁵ C. R. Lamb, Quarterly Journal of the Boston Zoölogical Society, II, 1883, 55.

During the very last days of September and the first week of October the two forms sometimes occur together, but true *palmarum* is ordinarily met with either singly or in company with birds of its own kind. It is a curious fact that thus far it has been found in eastern Massachusetts only in autumn.

214. *Dendroica palmarum hypochrysea* Ridgw.

YELLOW PALM WARBLER. YELLOW REDPOLL WARBLER.

Transient visitor in spring and autumn, usually common, sometimes abundant.

SEASONAL OCCURRENCE.

April 7, 1866, two adults taken, Watertown, W. Brewster.

April 15 — May 5.

May 20, 1875, one female seen, Belmont, W. Brewster.

May 20, 1892, one taken, Lower Mystic Pond, W. Faxon.

September 25, 1890, two¹ taken, Belmont, W. Faxon.

October 1 — 15.

October 22, 1871, several seen, one taken, Cambridge, W. Brewster.

Yellow Palm Warblers visit the Cambridge Region with unfailing regularity in spring and autumn, although their numbers vary greatly from year to year. Sometimes only a very few are reported, but in spring they are usually common and occasionally really abundant. On April 25, 1868, during a brief but heavy snowstorm, I found them by hundreds at Fresh Pond where, in company with an even greater number of Yellowrumps, they had congregated on a narrow strip of bare, pebbly beach at the water's edge. It is of course exceptional to see anything like so many together, but one may often meet with fifteen or twenty in a single flock or forty or fifty in the course of a morning walk. In spring they associate freely with the Myrtle Warblers, and hence frequent much the same places, although they resort rather less to upland woods and are even more given to haunting thickets near water, and to venturing out into fields or pastures where they sometimes occur hundreds of yards from any cover. I have not seen them of late years in our garden, but Miss Bertha T. Parker tells me that they continue to visit Norton's Woods. Their favorite haunts in autumn are barren tracts sparsely covered with gray birches. At the latter season they do not linger with us so late as do the Yellowrumps, although they appear quite as early in spring.

¹ Nos. 29,515 and 29,516, collection of William Brewster.

215. *Dendroica discolor* (Vieill.).

PRAIRIE WARBLER.

Locally common summer resident.

SEASONAL OCCURRENCE.

May 2, 1890, one seen, Belmont, W. Faxon.

May 8—September 15.

September 25, 1889, one seen, Belmont, W. Faxon.

NESTING DATES.

May 28—June 5.

Nuttall says that on June 4—probably in 1830 or 1831, although the year is not mentioned—he came upon a pair of Prairie Warblers “busily engaged collecting flies and larvæ from a clump of young locust trees, in the woods of Mount Auburn, and occasionally they flitted among the Virginian junipers.” While he was watching them the female went directly to the nest which was “in the forks of a low barberry bush, near by,”¹ and contained four eggs.

In the days of my youth a tract of some twelve or fifteen acres of neglected and rather barren land, lying immediately to the southward of the more elevated portion of Mount Auburn, and now included in the Cemetery but at that time separated from it by a high fence, was sprinkled with white and pitch pines, Virginia junipers, clusters of locust trees and thickets of barberry bushes. It was here, perhaps, that Nuttall saw his Prairie Warblers. If so, the birds had deserted the locality before I first became acquainted with it. Nor can I learn that they have been noted anywhere in or near Mount Auburn since Nuttall's time.

As long ago as 1867, however, I found them breeding numerous along the ridge that extends from Arlington to Waverley, and some ten or fifteen years later I ascertained that they also occurred rather commonly on and near Prospect Hill, Waltham, and sparingly or sporadically at several other places in that town and in Lexington. They have continued to occupy most of these stations down to the present time.

In the Arlington-Belmont district, where their chosen haunts are ‘cedar pastures,’ Prairie Warblers nest usually, if not invariably, in barberry bushes, pre-

¹ T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 395.

ferring those growing on rocky knolls and along old walls ; but on Prospect Hill they inhabit sprout growths and build their nests in sapling oaks and maples. In both localities they arrive about the 8th or 10th of May and remain at or near their breeding grounds through the entire summer, departing for the south late in August or early in September. Ordinarily they do not vary greatly in numbers from year to year, but they were exceedingly scarce in 1900.

Many and delightful were the days that I used to spend looking for nests of the Prairie Warbler in the hill pastures of Arlington and Belmont. These breezy uplands are attractive at every season, but most so in early June when the barberry bushes blossom. This is the time when our Prairie Warblers have full sets of fresh eggs. A search for their nests among the handsome, dome-shaped barberry bushes, covered with young foliage of the tenderest green, and with graceful, pendant clusters of golden-yellow flowers that fill the air with fragrance and attract myriads of droning bees, is a fascinating and memorable experience, whatever its material results. When, as often happens, all the more promising ground is covered without success, the searcher is likely to lose heart and to conclude — as indeed may be the case — that the Prairie Warbler which has been singing all the while in the row of tall cedars on the confines of the pasture is unprovided with a mate. Several isolated barberry bushes remain to be examined, however, and one of these — growing, perhaps, in the angle of a stone wall or at the base of some lichen-covered ledge — may prove to contain the prize. It is well worth the seeking, for few New England birds construct nests which compare in beauty and interest with that of the Prairie Warbler.

I have never met with the Prairie Warbler within the limits of the city of Cambridge, but a female was taken by Mr. Charles R. Lamb among some willows near the Glacialis, on September 14, 1883, and Miss Bertha T. Parker is confident that she saw a male in the grounds of the Museum of Comparative Zoölogy on May 13, 1898. It is perhaps not to be wondered at that the species occurs so seldom within our city limits, for it does not range much to the northward of Massachusetts, and most of the birds which enter the Cambridge Region evidently pass the summer there. I believe, moreover, that of the few migrants which go still further north the majority resort to the 'cedar pastures' of Belmont and Arlington whenever they find it desirable to halt for a day or two before continuing on their way. Prairie Warblers are usually more numerous in these pastures for a week or two after their arrival in spring than they ever are later in the season. It is probable, however, that this temporary surplus consists in part of young birds which, after trying to establish themselves in or near the places where they were reared, are forced, by the older birds, to seek other and less congenial breeding haunts at no great distance.

216. *Seiurus aurocapillus* (Linn.).

OVEN-BIRD. GOLDEN-CROWNED THRUSH.

Very common summer resident.

SEASONAL OCCURRENCE.

May 2, 1894, two seen, Arlington, W. Faxon.

May 6 — September 15. (Winter.)

September 24, 1895, one seen, Cambridge Region, W. Faxon.

NESTING DATES.

May 25 — June 5.

The Oven-bird used to nest sparingly in the region immediately to the westward of Mount Auburn and on the wooded islands in the Fresh Pond Swamps. According to Dr. Walter Woodman it occasionally passed the summer in Norton's Woods, prior to 1874. It still breeds very commonly throughout the more thinly settled parts of Arlington, Belmont, Waverley, Waltham and Lexington. Here it may be found rather frequently in groves of pines and by no means rarely about the edges of swamps and springy 'runs,' but its favorite haunts are dry, upland woods, composed chiefly of deciduous trees, such as oaks, chestnuts, maples or birches, and thickly carpeted with dead leaves, of and among which it constructs its interesting, domed nest.

The mixed flocks of small, insectivorous birds which roam our upland woods during the month of August seldom fail to include Oven-birds. Usually there will be at least three or four, and occasionally as many as ten or a dozen, of these aberrant, thrush-like Warblers in each large flock. They are among its least conspicuous members, for they spend most of their time on or very near the ground, rambling about among the herbaceous woodland plants, often beneath the shelter of dense undergrowth. Apparently they pay no heed to the movements of the throng of Warblers, Vireos and Titmice which are actively foraging, after their various fashions, in the tops and among the upper branches of the trees, but whenever the flock moves on, the Oven-birds are sure to follow in its wake. Thus although they do not often actually mingle with the other birds — at least with the more arboreal ones — they nevertheless keep them close company and share with them, no doubt, that sense of security and of companionship from which so many feeble and defenceless creatures evidently derive comfort and satisfaction when banded together in numbers.

During migration the Oven-bird often appears in the shrubbery of our city gardens, and in autumn we used to meet with it in the Maple Swamp. It arrives from the south early in May and, as a rule, departs before the close of September, although a few birds sometimes remain into October; I have one which I shot near the Watertown Arsenal on December 30, 1881.

217. *Seiurus noveboracensis* (Gmel.).

WATER-THRUSH. NORTHERN WATER-THRUSH.

Abundant transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

April 25, 1896, one seen, Arlington, W. Faxon.

May 8 — June 1.

June 5, 1875, two seen, Belmont, W. Brewster.

August 1, 1896, one seen, Cambridge, W. Brewster.

August 10 — October 10.

October 16, 1890, one taken, Fresh Pond Swamps, W. Faxon.

The Water-Thrush is a regular and abundant visitor to the Cambridge Region at its times of migration. The spring flight begins about May 8 and is ordinarily at its height between the 12th and the 25th, declining towards the close of the month, although a few birds sometimes linger nearly through the first week of June. They begin to return from their summer homes at the north soon after the first of August, performing the southward journey in so leisurely a manner that we commonly have them with us up to the end of September and sometimes well into October. They never fail to visit our garden in both spring and autumn, occurring there most numerous in August, when I have known as many as six or seven to be present at one time. We meet with them oftenest and most abundantly, however, in dense thickets covering swampy or, at least, very low and damp ground, usually not far from water. In the Fresh Pond Swamps and along the willow-shaded causeway that crosses Rock Meadow they sometimes literally swarm for days in succession at the height of the spring migration. The loud, rapid, musical songs of the males may then be heard coming from several directions at once, and the birds be seen darting from thicket to thicket or walking demurely about the edges of shallow pools, tilting their tails incessantly. In autumn they are much less conspicuous, partly because they are then more widely dispersed and nearly silent, but largely, also, because of the greater density of the vegetation at that season.

218. *Geothlypis agilis* (Wils.).

CONNECTICUT WARBLER.

Transient visitor in autumn, sometimes abundant locally.

SEASONAL OCCURRENCE.

September 7, 1871, three seen, one taken, Maple Swamp, W. Brewster.

September 10—30.

October 9, 1892, one ad. male seen, Arlington, W. Faxon.

October 9, 1893, one seen, Arlington, W. Faxon.

The local history of the Connecticut Warbler is peculiarly interesting. The species was first detected in the Cambridge Region by Mr. H. W. Henshaw, who on September 8,¹ 1870, shot a single bird in the Maple Swamp. On the following day he took seven specimens in the same place and on the 10th three more. I was absent from Cambridge at the time but, returning on the night of the 10th, I devoted the remainder of the month to searching for Connecticut Warblers in company with Mr. Henshaw. It was, perhaps, the most fascinating field pursuit in which I have ever engaged, for the birds, although numerous enough, were singularly retiring and elusive, while their habits, of which almost nothing had been previously known, proved to be most interesting. Moreover their skins were then represented in but few collections, a fact which appeared to us to justify the taking of as many specimens as possible. Together we secured upwards of sixty that one season. We killed a still larger number in September, 1871, when the birds seemed to be even more abundant than they had been the first year, although this may have been merely because we had learned just where and how to look for them. Throughout this second autumn the Maple Swamp continued to be their chief place of resort. We also found them regularly and rather commonly in the Pine Swamp and sparingly in several of the neighboring swampy covers, while a few scattered individuals were met with in thickets of gray birches near Rock Meadow.

Although the number of Connecticut Warblers which we collected during these two seasons appears large, it is really trifling in comparison with that of the birds which escaped us. Nor did our inroads cause the slightest perceptible

¹Dr. Brewer states (*History of North American Birds*, I, 1874, 292) that this specimen was taken on the 7th, but according to an entry in my diary, and to some other notes which I made about the same time, the 8th is the correct date.

diminution in the number of the birds which visited the Fresh Pond Swamps during the succeeding decade. Indeed I have never known them to be more abundant there than they were in September, 1881, and very many were noted during the following autumn, also. Since then I have had no opportunities of looking for them at the proper season, but several of my friends have done so repeatedly without much success. There is, indeed, an impression, rather general among our local ornithologists, that Connecticut Warblers have not visited the Cambridge Region since 1882 in anything like the numbers in which they occurred previous to that year. If this impression be correct¹ it is difficult to account for the change. It is true that some of the former haunts of the birds in the Fresh Pond region, such as the Pine Swamp, have been long since obliterated by the march of modern improvements, but on the other hand their favorite resort, the Maple Swamp, has remained, up to within a year or two, essentially as it was during the period of their greatest abundance there.²

We used to find Connecticut Warblers oftenest among the thickets of clethra, *Andromeda ligustrina*, shad-bush, and black alder, which formed a dense undergrowth beneath the large maples that shaded the wooded islands of this swamp, and in the beds of touch-me-not (*Impatiens*) that covered some of its wetter portions. They were also given to frequenting the banks of the numerous intersecting ditches, especially where the deadly nightshade, clinging to the stems of the bushes, trailed its gray-green foliage and coral-red berries over the black mud or coffee-colored water. In such places they often literally swarmed, but so retiring and elusive were they that by anyone unacquainted with their habits they might easily have been overlooked. They spent most of their time on the ground under or among the rank vegetation, where they would often remain securely hidden until nearly trodden on. Indeed we learned eventually that the only certain method of starting all the birds that a thicket contained was to beat the place closely and systematically many times in succession. When flushed they would usually fly up into the low bushes and sit there motionless in thrush-like attitudes, gazing at us intently with their large dark eyes. If further disturbed, they were nearly sure to take long flights to distant parts of the swamp. During cloudy weather we sometimes found them feeding with Black-poll Warblers in the tops of large willows, fifty or sixty feet above the ground. The earliest date on which they were ever seen by us was September 7 and the last

¹ Since writing the above passage I have learned that in September, 1901, Mr. H. M. Spelman made several visits to the Maple Swamp, and that he started there, on each occasion, from two or three to five or six Connecticut Warblers. This would indicate that the birds may still be found in fair numbers by those who, like Mr. Spelman, are familiar with their haunts and habits.

² In the winter of 1904-1905 the Maple Swamp was invaded by wood choppers who cut away many of the thickets and most of the larger trees.

stragglers usually departed for the south before the 1st of October. They never appeared in spring, nor is there a single record in which I have full confidence of their occurrence at that season in any part of Massachusetts.

219. *Geothlypis philadelphia* (Wils.).

MOURNING WARBLER.

Transient visitor, rare in spring, exceedingly rare in autumn.

SEASONAL OCCURRENCE.

May 21, 1866, one male taken, Cambridge, W. Brewster.

May 22—June 5.

June 13, 1905, one male seen and heard, Cambridge, G. M. Allen, C. F. Batchelder, W. Deane.

September 12, 1891, one im. male¹ taken, Cambridge, W. W. Brown.

September 12—25.

September 27, 1901, one im. male² taken, Cambridge, W. Brewster.

In the eyes of our local ornithologists the Mourning Warbler, like the Cape May, possesses exceptional interest by reason of its comparative rarity and the striking beauty of its plumage. Although it probably visits us regularly, at least in spring, I have never known it to occur in any but the very smallest numbers. The observer who finds more than one or two birds in the course of a single season is indeed fortunate, and the chances are that he will not meet with the species oftener, on an average, than once every three or four years. In view of these facts it may be well to give all the records which my notes supply relating to the Cambridge Region. They are as follows:—

May 21, 1866. A male Mourning Warbler was singing in our garden early this morning. I shot the bird and mounted it, but the specimen was afterwards lost.

September, 1870. A young bird—a female if I remember rightly—was killed about the 12th of this month in the Maple Swamp by Mr. H. W. Henshaw.

June 8, 1875. On this comparatively late date I killed a female in the Maple Swamp. Her ovaries were but slightly developed, and she probably would not have laid her eggs much before the 20th of the month.

June 3, 1877. About noon today I heard a male singing in a cluster of lilacs in our garden. A few minutes later I shot the bird, which is preserved in my collection. It is in exceptionally high plumage.

¹ No. 29,887, collection of William Brewster.

² No. 30,442, collection of William Brewster.

May 29, 1878. Mr. C. F. Batchelder has a male which he shot on this date in an apple tree close to his house on Kirkland Street, Cambridge.

May 21, 1882. Three males were killed today by a man named Clark who was collecting for Mr. C. J. Maynard. In recording these specimens, Mr. H. A. Purdie states¹ that they were "shot near Fresh pond, Cambridge," but my notes give the locality as Belmont. At the time they were taken the whole Cambridge Region was flooded with migrating Warblers of various species.

May 27-29, 1884. On May 27 a male Mourning Warbler was seen in the Maple Swamp by Mr. Charles R. Lamb who, two days later, killed what was apparently the same bird within a few yards of the same spot.

June 2, 1890. A male was seen by me today in our garden. It was singing freely.

June 6, 1890. A male was noted at Waverley by Mr. Walter Faxon.

May 27, 1891. A male was seen by Mr. Walter Faxon near Sherman's Pond, Waltham.

September 12, 1891. I have a skin of a young male which was killed on this date in Cambridge (probably in the Fresh Pond Swamps) by Mr. Wilmot W. Brown.

May 27, 1892. Mr. William P. Hadley shot a male in Arlington. The specimen is now in my mounted collection.

June 3, 1893. A male was shot in Arlington by Mr. William P. Hadley.

June 4, 1894. Mr. Walter Faxon saw a male in Arlington.

June 1, 1901. A male was seen in Norton's Woods by Miss Bertha T. Parker.

September 26-27, 1901. On the earlier of these dates a young male appeared in our garden, remaining there until the following day when I shot it. The specimen is in my collection.

June 9-13, 1905. On June 9 Mr. Glover M. Allen found a male Mourning Warbler among some shrubbery close to the house of Professor Francis G. Peabody, on Kirkland Street, Cambridge. It was noted again in the same place on the following day by Mr. Allen. On the 13th of the month it was seen, for the last time, by Mr. Allen, Mr. C. F. Batchelder and Mr. Walter Deane in Mr. Batchelder's grounds, which adjoin those of Mr. Peabody. On all three occasions the bird was in full song.

There is an early record by Nuttall (*Land Birds*, 1832, 404-405) of a bird which he saw in the Harvard Botanic Garden on May 20, 1831, and which he believed to have been a male Mourning Warbler. His description of its color and markings indicates, however, that it must have belonged to some other species.

From the above notes it will appear that the Mourning Warbler is one of our latest spring migrants and that it seldom visits us in autumn. Most of the birds which I have mentioned were found either in swampy thickets or among dense shrubbery in gardens. When on its breeding grounds in northern New England the species frequents rather dry and comparatively open places, nesting, as a rule, in tangles of wild raspberry bushes on wood edges, by roadsides, and about deserted lumber camps.

¹ H. A. Purdie, *Bulletin of the Nuttall Ornithological Club*, VII, 1882, 252.

220. *Geothlypis trichas brachidactyla* (Swains.).

NORTHERN YELLOW-THROAT.

Abundant summer resident; of occasional occurrence in winter, also.

SEASONAL OCCURRENCE.

May 1, 1879, one ad. male¹ taken, Belmont, W. Brewster.

May 5 — October 20. (Winter.)

November 8, 1879, one seen, snow on ground, Arlington, C. W. Townsend.

NESTING DATES.

May 25 — June 5.

According to Dr. William Palmer² the true Maryland Yellow-throat does not range to the northward of New Jersey, its place being taken in New England by a form subspecifically distinct, which is now called the Northern Yellow-throat, to which the scientific name *brachidactyla*, originally proposed by Swainson, is applied. As these names have been passed upon and accepted by the A. O. U. Committee, I use them in the present connection although I have no strong faith that they will prove lasting, at least in their application to our New England bird. The characters by which the two forms are said to be separable seem to me trivial and I fear they are also inconstant, for I have specimens taken in Massachusetts and Connecticut which I cannot distinguish from typical examples of *trichas* from the Middle States.

The so-called Northern Yellow-throat breeds throughout the Fresh Pond Swamps in numbers which are exceeded only by those of the Yellow Warbler, the Swamp Sparrow and the Red-winged Blackbird. It is also very common at Rock Meadow. In both localities its favorite haunts are thickets of low bushes and beds of cattail flags or of rank marsh grasses, about the borders of pools and ditches. Elsewhere in the Cambridge Region the bird is sparingly but generally distributed along the courses of brooks and around the edges of swamps and meadows. Although at all times partial to wet places it is by no means confined to them. I have twice found it nesting in ground junipers in perfectly dry upland pastures near Arlington Heights, and at its seasons of

¹No. 4516, collection of William Brewster.

²W. Palmer, *Auk*, XVII, 1900, 216-242.

migration it occurs almost everywhere—by no means infrequently in our city gardens.

Most of the birds that breed in our neighborhood depart for the south before the end of August. In September their places are taken by migrants from further north. Stragglers often remain nearly through October and on two occasions,—January 31, 1890, and December 24, 1891,—Mr. Walter Faxon has found solitary individuals apparently settled for the winter in the dense beds of cattail flags at Pout Pond. A few Northern Yellow-throats have since been seen during these months in the same locality. The wintering birds appear to be invariably young, which, no doubt, linger thoughtlessly until their comrades have departed and afterwards are too indifferent or too inexperienced to attempt to follow them.

221. *Icteria virens* (Linn.).

YELLOW-BREASTED CHAT.

Summer resident of irregular and rather rare occurrence.

SEASONAL OCCURRENCE.

May 14, 1892, one seen, Fresh Pond Swamps, W. Faxon.

Early in September, 1871, one seen, Pine Swamp, H. W. Henshaw.

NESTING DATE.

June 9, 1884, nest¹ and three eggs,¹ Cambridge, C. R. Lamb.

The Chat has been found breeding regularly and really commonly in the neighborhood of Lynn,² and more sparingly in Malden and Melrose, but it appears to be an infrequent and somewhat irregular visitor to the Cambridge Region, perhaps because so few of our thickets are overrun with the greenbrier vines among which it loves to skulk and to conceal its nest. I can give but five instances of its occurrence prior to 1890. Of these the first relates to a bird which was seen by Mr. H. W. Henshaw in the Pine Swamp early in September, 1871; the second, to a male which I found in a brushy pasture near Arlington Heights, in full song and apparently breeding, on June 13, 1874; the third, to a

¹ No. 676, collection of William Brewster.

² Mr. W. A. Jeffries tells me that the Chats have nearly, if not quite, deserted this locality within the past few years.

bird mentioned in the records of the Nuttall Ornithological Club as seen by Mr. J. A. Allen "in Cambridge on the 3d or 4th" of August, 1876; the fourth, to a male¹ which I met with at the western end of Rock Meadow on May 24, 1884. The fifth record concerns a pair of birds which, with their nest and eggs, were taken by Mr. Charles R. Lamb in the Maple Swamp on June 9, 1884, and which are now in my collection. The male was first seen on May 22. The nest was found on June 4, when it contained two fresh eggs, only one more being afterwards laid.

On June 6, 1890, a Chat was taken at Arlington Heights by Mr. W. P. Hadley.² In 1891 several birds were observed in Arlington. Two of them — a pair — were seen together in a bushy swamp near Little River on May 31, and again on the following day, by Mr. Walter Faxon. As the male was singing in the same place about a week later, there can be little doubt that these birds were settled for the season and preparing to breed. There is reason to fear, however, that one of them was killed, before the eggs were laid, by two collectors, who, in 1891, took no less than four specimens — all males — in Arlington and Lexington.

My latest record of local breeding is on the authority of Mr. J. R. Mann who, under date of June 12, 1905, writes me as follows: "A pair of Yellow-breasted Chats are domiciled near my house at Arlington Heights. They have a nest with four eggs. I shall watch this nest with the hope that the young may be reared to maturity."

[*Wilsonia mitrata* (Gmel.). HOODED WARBLER. Mr. Arthur C. Comey has reported that on September 5, 1901, he "identified an adult male Hooded Warbler (*Wilsonia mitrata*) in a line of old privet bushes in the Harvard Botanical Garden," Cambridge, getting within "five feet" of the bird and "easily" making "out every characteristic of the species."³

These are very definite and positive statements, and Mr. Comey, as I take pleasure in testifying, is a careful and conscientious young field ornithologist. Nevertheless the fact that at the time of making the above observation he was wholly unfamiliar with the Hooded Warbler in life is sufficient reason, in my estimation, for ruling that until his record has been confirmed by still better evidence the species to which it relates should not be formally included in the Cambridge list. The Hooded Warbler has been found before in eastern Massachusetts, however, *viz.*, at Brookline⁴ on June 25, 1879; at Framingham⁵ on October 15, 1893; at Taunton⁶ on May 8, 1888; and at Provincetown⁷ on June 25, 1888.]

¹ No. 9137, collection of William Brewster.

² W. P. Hadley, *Ornithologist and Oölogist*, XV, 1890, 96.

³ A. C. Comey, *Auk*, XVIII, 1901, 397.

⁴ R. Deane, *Bulletin of the Nuttall Ornithological Club*, V, 1880, 117.

⁵ H. D. Eastman, *Auk*, XIV, 1897, 327.

⁶ R. H. Howe, Jr., and G. M. Allen, *Birds of Massachusetts*, 1901, 101.

⁷ F. H. Hitchcock, *Auk*, VII, 1890, 407.

222. *Wilsonia pusilla* (Wils.).

WILSON'S WARBLER. WILSON'S BLACKCAP.

Transient visitor, common in spring, uncommon in autumn.

SEASONAL OCCURRENCE.

May 9, 1895, one male seen, Belmont, W. Brewster.

May 12 — 25.

May 27, 1894, one male seen, Cambridge Region, W. Faxon.

September 1, 1884, one ad. male taken, Watertown, W. Brewster.

September 1, 1900, one female or young male seen, Arlington, W. Faxon.

September 5 — 20.

November 20, 1898, one female¹ taken, Belmont, W. Faxon.²

A few Wilson's Blackcaps usually appear in our neighborhood as early as the 10th or 12th of May, but the bulk of the spring flight seldom reaches the Cambridge Region before the 16th and sometimes not until the 24th or 25th of the month. At the height of the movement the birds are often common and occasionally so numerous that from six or eight to ten or a dozen may be noted in the course of a single morning. We meet with them singly, as a rule, perhaps in upland woods (especially among white pines or hemlocks) or even in our city gardens, but oftenest, by far, in dense thickets near water. They occur most regularly and in the greatest numbers in the Fresh Pond Swamps, where they frequent low, bushy willows, and at Rock Meadow, where they are often observed among the lower branches of the large white willows that shade the causeway road. Although exceedingly active and restless they permit close approach and are easily identified, even when but imperfectly seen, for their motions are not less characteristic than their color and markings.

During their return migrations, which begin late in August, Wilson's Blackcaps are decidedly less numerous — or at least conspicuous — than in spring, and also more given to haunting dry places. Indeed I have seen them oftenest at this season among oaks or pines growing on high ground. Most of them pass southward before the middle of September, but Mr. Ralph Hoffmann has reported² finding a young bird in Belmont as late as November 20 (1898).

¹ No. 48,307, collection of William Brewster.

² R. Hoffmann, *Auk*, XVI, 1899, 196.

223. *Wilsonia canadensis* (Linn.).

CANADIAN WARBLER. CANADA FLYCATCHER.

Transient visitor, common in spring, rare in autumn ; also a rare summer resident.

SEASONAL OCCURRENCE.

May 9, 1895, one male heard, Belmont, W. Brewster.

May 12 — 30. (Summer.)

June 3, 1875, one ad. male¹ taken, East Lexington, W. Brewster.

August 11, 1889, one seen, Arlington, W. Faxon.

September 1 — 15.

September 18, 1889, one seen, Belmont, W. Faxon.

The Canadian Warbler is seldom noted in the Cambridge Region excepting during migration, when it usually appears at nearly the same dates and in about the same numbers as the Wilson's Blackcap. The spring flight sometimes begins as early as the 9th or 10th of May, but ordinarily not before the 12th or 15th, while the movement is seldom at its height before the 20th and often not until the 25th or 26th. Most of the birds pass further north before the close of May, but a few linger into the first week of June. Like the Blackcaps they are nearly always met with singly, and usually in damp thickets, although they sometimes visit our city gardens and they are occasionally seen in upland woods especially where there is an undergrowth of bushes or of young pines. It is probable that the return migration passes southward by some more inland route, for the Canadian Warbler is comparatively seldom found in eastern Massachusetts in autumn. Indeed I have met with it only thrice at this season — on August 25, September 1 and September 2, 1884. On each of these occasions a young bird was taken among red cedars on a hilltop just to the westward of Mount Auburn. Mr. Walter Faxon has given me a note relating to a Canadian Warbler which he saw in Belmont on September 18, 1889.

The following interesting record by a former member of the Nuttall Ornithological Club appeared in the 'Naturalist in Florida,' a bi-monthly journal of brief existence printed at St. Augustine, Florida, and edited by Mr. C. J. Maynard :

"Nest and Eggs of the Canada Fly-catching Warbler in Massachusetts."

On the 9th of June, 1884, while walking through a piece of wet woods near

¹ No. 2497, collection of William Brewster.

Arlington Heights, which consisted mainly of oak and maple, I flushed a small bird from the ground right before my feet. It alighted on a bush close by and uttered a loud chuck of alarm. I then saw that it was a female Canada Fly-catching Warbler. Supposing that she had sprung from her nest, I shot her to prevent the possibility of a mistake. After some search I found the nest at the foot of a tree, sunk on a level with the ground and carefully concealed under the checkberry [*sic*] vines which grew around in abundance. It contained five eggs which were just ready to hatch. J. L. GOODALE, Cambridge.”¹

The instance just given is the only one known to me of the actual finding of a nest of the Canadian Warbler in the Cambridge Region, but Mr. Walter Faxon tells me that he has good reasons for believing that the species has bred in Tophet Swamp, North Lexington, within recent years. I have noted it regularly — if only very sparingly — in summer at several localities in Lincoln and Concord.

224. *Setophaga ruticilla* (Linn.).

AMERICAN REDSTART. REDSTART.

Abundant summer resident.

SEASONAL OCCURRENCE.

April 23, 1891, two males heard, Arlington, W. Faxon.

May 5 — September 20.

October 2, 1894, one seen, Arlington, W. Faxon.

NESTING DATES.

June 2 — 8.

The Redstart is one of the most abundant, conspicuous and widely distributed of our smaller summer birds. It is found throughout practically the entire Cambridge Region, but its favorite haunts, especially in the nesting season, are swampy woods and thickets bordering brooks, meadows, and ponds. In the more thinly settled districts it also breeds sparingly in upland woods and groves (even among white and pitch pines); occasionally in apple orchards; and not infrequently in shade trees near farmhouses. During the earlier years of my experience it was seldom seen at any season in the more densely populated parts

¹J. L. Goodale, *The Naturalist in Florida*, I, no. 4, March, 1885, 14.

of Cambridge,¹ but since 1880 it has become a common summer resident of a considerable portion of this city, while in the gardens and cultivated grounds bordering on Brattle Street, between Sparks Street and Mount Auburn, it now breeds almost if not quite as numerous as in the Fresh Pond Swamps, or in the wilder parts of Arlington, Belmont, and Waverley. The acquisition of so brilliant and attractive a little bird during the very period when many of our native species have been deserting Cambridge and its suburbs, has been not less pleasing than unexpected. Apparently the change has been due largely, if not wholly, to the fact that large areas of formerly open land have become densely covered with planted trees in which the Redstart now finds congenial food and shelter.

225. *Anthus pensilvanicus* (Lath.).

AMERICAN PIPIT. TITLARK.

Transient visitor, rare in spring, common in autumn.

SEASONAL OCCURRENCE.

April 18, 1872, flock seen, one im. female² taken, Belmont, W. Brewster.

May 2, 1892, three seen, East Lexington, W. Faxon.

September 11, 1875, one seen, Fresh Pond Marshes, W. Brewster.

September 20—November 1.

November 24, 1889, two seen, Cambridge Region, W. Faxon.

Titlarks visit the Cambridge Region regularly in autumn, appearing soon after the middle of September and remaining through October or even a few days into November. Their numbers vary with different years, but they are usually common and I have known them to be abundant, especially in the marshes bordering Charles River and in those near Fresh Pond. They also frequent freshly ploughed fields and occasionally pastures where the land is low and damp. They are seen oftenest, however, on wing, roving restlessly about over the country in flocks containing from half a dozen to forty or fifty birds each. While in the air they may be easily recognized by the loose, straggling order in which they move, by their deeply undulating flight, and by their almost incessant piping calls which are not unlike those of the Horned Larks, although decidedly feebler and

¹ In Norton's Woods, however, according to Dr. Walter Woodman, three or four pairs nested every season between 1866 and 1874.

² No. 2629, collection of William Brewster.

also somewhat shriller. Titlarks seldom appear in the immediate neighborhood of Cambridge in spring, but I have known them to occur numerously at that season in the salt marshes near Revere Beach.

226. *Mimus polyglottos* (Linn.).

MOCKINGBIRD.

Rare transient visitor in spring and autumn, and very rare summer resident.

My notes supply the following instances of the occurrence of the Mockingbird in the Cambridge Region:—

Cambridge.

On September 20, 1881, Mr. Spelman and I found a male perched in the top of a small elm on the banks of Little River not far from Beech Island. Four days later (on September 24) Mr. Spelman again saw the bird in the same tree. On both occasions it was singing almost continuously but somewhat feebly and brokenly.

On December 10, 1881, a female was shot by Mr. Charles R. Lamb not far from the Fresh Pond Hotel in what is now called Kingsley Park. It had been feeding on buckthorn berries, which abounded in a neighboring hedge, and was in good physical condition and unworn plumage.

On October 26, 1899, a bird was seen by Mr. O. A. Lothrop in the shrubbery at the northeastern entrance to Fresh Pond Park.

Belmont.

On April 5, 1891, I found a Mockingbird in an arbor vitæ hedge in what are now the grounds of the Oakley Country Club. On the 13th of the month I met with what, no doubt, was the same bird on the opposite side of the road in Payson Park. He was in full, continuous song on both occasions. I did not see him again although I looked for him several times later that season.

On October 26 and November 17, 1898, a Mockingbird was noted by Mr. Ralph Hoffmann¹ near Payson Park. Mr. Walter Faxon writes me that he saw this bird on both of the dates just mentioned and also on October 27; he adds that it was met with on several other occasions by different observers.

On March 25, 1899, a bird, which may have been the same as that just mentioned, was observed by Mr. George C. Deane on School Street only a short distance from the northeastern confines of Payson Park.

On October 15, 1899, a Mockingbird was seen by Mr. M. Abbott Frazar about half a mile to the northward of Payson Park not far from the town center of Belmont.

On May 29, 1904, Mr. Ralph Hoffmann saw a Mockingbird in Belmont. It was in full song.

Arlington.

Dr. Charles W. Townsend has recorded the capture, by his brother, Mr. W. S. Townsend, on August 15, 1883, of two young Mockingbirds "nearly full-grown."

¹ R. Hoffmann, *Auk*, XVI, 1899, 196.

They were found "in a small thicket near a meadow, in company with an old one and two other young ones. . . . Their wings [were] fully grown, but their tails . . . shorter than in the adult." A farmer living near the place had seen a Mockingbird "during the early part of the summer near his house, and heard him sing."¹ Dr. Townsend tells me that the locality is about half a mile to the westward of Arlington Heights. He has kindly given me one of the young birds above mentioned; the other is preserved in his own collection.

Waltham.

Mr. H. A. Purdie tells me that on April 7, 1892, he met with a Mockingbird at Prospect Hill, Waltham. The bird was a male and in full song.

There is a record² by the late Emery C. Greenwood of a Mockingbird which he claimed to have shot in Newtonville, less than a mile from the southern borders of the Cambridge Region, on March 6, 1874. Inasmuch as Mr. Greenwood is known to have been wholly unreliable in respect to such statements it would be not unnatural to discredit this record. I believe, however, that it may be accepted without hesitation. The bird to which it relates was brought to me in the flesh only a few hours after its death and I skinned and mounted it.³ It was in fresh, unworn plumage and fine physical condition. On dissecting it I found that it had been feeding on the berries of the red cedar. In short it had every appearance of being a wild bird, and I see no reason to doubt that it was killed in Newtonville.

In view of the fact that the Mockingbird has not been found breeding in northern New England it is singular that so large a proportion of the birds which visit eastern Massachusetts occur in spring, autumn or winter, and that so very few are seen in midsummer. The assumption, rather generally entertained, that many of them have escaped from cages has always seemed to me unnecessary if not gratuitous. Few if any of those which have been shot or closely observed have shown, either in respect to physical condition or to behavior, evidences of having been kept in confinement. No one doubts that the Carolina Wrens, Blue-gray Gnatcatchers and Summer Tanagers, which occasionally visit us, make their way to New England by the aid of their wings alone. The Mockingbird comes oftener and more regularly than any of them, and the northern confines of its normal summer habitat are not more distant than are theirs. It is also known to breed occasionally in Massachusetts. Why then should we doubt that its visits are purely voluntary and indicative of a tendency to extend its breeding range still further northward?

¹ C. W. Townsend, *Auk*, I, 1884, 192.

² E. C. Greenwood, *American Sportsman*, V, 1875, 370.

³ No. 10, collection of William Brewster.

227. *Galeoscoptes carolinensis* (Linn.).

CATBIRD.

Abundant summer resident ; occasionally found in winter.

SEASONAL OCCURRENCE.

April 29, 1902, one seen, Belmont, R. Hoffmann.

May 6 — October 1. (Winter.)

October 16, 1892, one seen, Arlington, W. Faxon.

NESTING DATES.

May 22 — 30.

From early in May to about the first of October the Catbird is found more or less numerously throughout the Cambridge Region, wherever the local conditions are suited to its requirements. Its favorite haunts are bushy swamps and moist thickets bordering streams, meadows and country roadsides. It also nests sparingly in upland pastures sprinkled with red cedars and clusters of barberry bushes, and by no means infrequently among currant, raspberry or blackberry bushes near farm buildings or in ornamental shrubbery on the outskirts of towns and villages. Within my personal recollection it has never been really common nor at all generally distributed in the more densely populated parts of Cambridge, although it used to regularly pass the summer in Norton's Woods, at Elmwood, in the lilacs in front of the old Longfellow house, and in those about our own place. Of these stations that last named is, I believe, the only one where the Catbird has bred within the past decade. In 1894 our birds reared the young of their first brood successfully, but those of the second were devoured by a marauding cat. Early the next spring our garden was surrounded by a fence over which no cat, however agile and persistent, has ever succeeded in clambering, but the Catbirds did not come back to us until 1900, when they brought up two families of young in peace and security. In 1901 they got out their first brood safely, but the second clutch of eggs was destroyed by rats. In 1902 they again reared two broods ; in 1903 they were not seen after the close of migration ; in 1904 they were present during the entire season but bred only once, rearing a full brood ; in 1905 they reared two broods.

Unlike most thicket-haunting species the Catbird is at all times fearless and confiding to a remarkable degree, showing almost no fear of man and seldom

attempting to conceal itself, even when closely approached or followed. Indeed at all times it seems to court rather than to shun observation. By reason of these traits, and of its large size, peculiar coloring, animated movements and loud, voluble song, it is one of the most conspicuous of our summer birds despite the character of its haunts. Nor does it take especial pains to hide its neat but bulky nest, which is frequently built in a low bush by the roadside in plain sight of passers-by. The highly polished, dark bluish green eggs are known to every country boy of birds-nesting proclivities, and are often devoured by Blue Jays, milk adders and black snakes. In spite of the depredations of these and other predatory animals the Catbird has not appreciably diminished in numbers within the past thirty or forty years, at least in eastern Massachusetts.

Most of our Catbirds depart for the south by the end of September, but a few usually linger several days into October. In 1892 Mr. Walter Faxon noted one at Waverley from December 17 to 31, and I have a specimen which was taken at Wellesley on December 30, 1887.

228. **Toxostoma rufum** (Linn.).

BROWN THRASHER. THRASHER. BROWN THRUSH. PLANTING BIRD.

Common summer resident.

SEASONAL OCCURRENCE.

April 16, 1896, one seen, Belmont, R. Hoffmann.

April 26 — October 20. (Winter.)

November 4, 1869, one seen, Waltham, W. Brewster.

NESTING DATES.

May 21 — 30.

In some respects the haunts and habits of the Brown Thrasher are not dissimilar to those of the Catbird, and nests of the two species may be sometimes found in the same thicket; as a rule, however, the Thrasher avoids the swampy places which are so congenial to the Catbird, its favorite resorts being dry, sun-scorched hillsides dotted with clusters of barberry bushes or covered with a young sprout growth of oaks, maples and other deciduous trees. It is, moreover, a shyer and more retiring bird than its sombre-hued cousin. Even in my boyhood the country immediately about Cambridge, as well as that just to the

westward of Mount Auburn, had become too civilized for its liking. Migrating Thrashers occasionally appeared then, as they do still, in the Fresh Pond Swamps, and also in our city gardens, but I have never known the species to breed in Cambridge nor indeed much nearer that city than on the high ridge which extends from Arlington to Waverley. Along this ridge, as well as throughout the thinly settled country to the westward, the birds continue to re-appear, season after season, in many different localities. Although nowhere very numerous, they attract general attention, especially in late April and early May when the males are pouring out their loud, musical songs. Their nests are commonly built in barberry or other low, dense bushes, but sometimes on the ground. In midsummer, broods of young Thrashers with their parents may often be seen indulging in dust baths in retired country roads or flitting through the shrubbery that half conceals the bordering stone walls. During late summer and early autumn they are given to frequenting swampy thickets, especially those composed chiefly of high-blueberry bushes. Most of our Thrashers depart for the south before the close of September, but a few birds usually remain until about the 20th of October and stragglers sometimes linger into November.

There is an instance on record¹ of a Brown Thrasher spending the entire winter in an old pasture grown up to cedars and barberry bushes on a hillside which slopes steeply down from Arlington Heights towards the center of Arlington. This bird was first noticed on December 15, 1894, by Mr. Arthur S. Gilman who, three days later, showed it to Mr. Walter Faxon, by whom it was kept under close observation through the remainder of the winter, which was exceptionally cold with a good deal of snow. Although the bird could fly perfectly well, at least for short distances, one of its wings drooped perceptibly. Perhaps its failure to migrate at the usual season was due to some injury that it had received during the previous autumn or summer. Probably it would have perished had not Mr. Faxon fed it regularly once or twice each week, giving it Indian meal mush, bread crumbs, oatmeal and occasionally meal worms, all of which it ate greedily from a tin dish. It remained in the same spot through January and February and was last seen on March 5.

Just as this Memoir is going to press I learn from Mr. Faxon that he saw another Brown Thrasher in Lexington on February 22, 23 and 24, 1905. It was noted at intervals during the following month up to the 26th. On all the February dates it appeared, in company with some Robins, near a house where food is thrown out daily for the birds. As far as he could judge by its appearance it was in sound and healthy condition. There can be little question that it passed the entire winter (a severe one with deep snows) in Lexington.

¹ A. S. Gilman, *Auk*, XIII, 1896, 176-177.

229. *Thryothorus ludovicianus* (Lath.).

CAROLINA WREN.

Rare and perhaps only casual visitor from the south.

On September 27, 1891, a Carolina Wren was shot by Mr. C. F. Batchelder in the grounds about his house on Kirkland Street, Cambridge. "The bird was an adult male and was in fine condition. He had been in the neighborhood for nearly a week and possibly longer, and was frequently to be heard calling or singing. The spot seemed to be to his taste," for it afforded a range through several adjoining gardens filled with shrubbery and trees besides "an extensive pile of firewood and odds and ends of lumber the attractions of which he seems to have been the first to discover."¹

On May 4, 1902, Mr. Ralph Hoffmann found a Carolina Wren in an orchard near the eastern end of Rock Meadow. "The bird was singing freely. The people in the house near by said that they had heard him about the place for three or four days."² He was neither seen nor heard after the date just mentioned.

Early the following spring (that of 1903) Mr. Hoffmann again met with a male Carolina Wren in Belmont — at a locality more than a mile distant from Rock Meadow and not far from Payson Park. A farmer living in the neighborhood asserted that the bird had appeared there about March 1, but it was first seen by Mr. Hoffmann on the 7th of the month. From this date to the close of May it was noted every few days by one or another of our local observers, and invariably in nearly the same place, for the total area covered by its daily wanderings did not exceed two or three acres. It was very tame and familiar, spending the greater part of its time in a yard surrounded by farm buildings and in a neighboring pear orchard. Its favorite singing station was among the upper branches of a large pollarded willow that stood close to an old shed under which, in an open space half filled with rubbish, the bird would occasionally seek shelter when disturbed. I saw it in all these places on the morning of March 20, when it was singing freely.

It is possible, of course, that the Wren last mentioned was the same individual as that seen by Mr. Hoffmann at Rock Meadow in 1902 and still more

¹ C. F. Batchelder, *Auk*, IX, 1892, 73.

² R. Hoffmann, *Auk*, XIX, 1902, 292.

probable, perhaps, that the former bird after spending the entire spring near Payson Park, eventually strayed to Arlington Heights, for Mr. William P. Hadley tells me that he has a Carolina Wren which he killed at the latter locality early in June, 1903.

As the Carolina Wren is known to have bred on Naushon Island, Massachusetts,¹ and suspected, on reasonably good evidence,² to have done so at a locality only a few miles south of Boston, there is no reason why it may not occasionally nest within the limits of the Cambridge Region. All the records above given for this region relate, however, to fully mature male birds which were almost certainly unprovided with mates.

230. *Troglodytes ædon* Vieill.

HOUSE WREN.

Summer resident, formerly abundant, now found only sparingly and in but a few localities.

SEASONAL OCCURRENCE.

April 24, 1897, one male seen, Arlington, W. Faxon.

April 28 — September 25.

October 30, 1880, one seen, Fresh Pond Marshes, C. F. Batchelder.

NESTING DATES.

May 25 — June 5.

From the time of my earliest recollection up to about 1875 House Wrens were abundant in Cambridge, Watertown, Waverley, Belmont, Arlington and Medford. Further inland they were much less common, although they occurred sparingly in Waltham and Lexington and rarely in Lincoln and Concord. They were most numerous in Cambridge and its suburbs, where they bred practically everywhere, even in the most densely populated parts of Cambridgeport, nesting in wooden bird-houses and in the old-fashioned, earthen-ware olive jars which were put up for them or for the Bluebirds. Where such accommodations were not to be had they occupied holes in trees and crevices in the walls or under the eaves of out-buildings. They were, indeed, among the commonest and most

¹ W. Brewster, *Auk*, XVIII, 1901, 397-398.

² H. D. Minot, *Bulletin of the Nuttall Ornithological Club*, I, 1876, 76.

familiar as well as the most attractive and interesting of our city birds; adapting themselves easily to crowded and noisy surroundings; obtaining the spiders which formed their favorite food from piles of lumber or other debris in vacant lots or from fences surrounding yards quite barren of trees or shrubbery; rearing their young successfully in localities much infested by cats; ever active, cheerful, contented; delighting every one by their animated movements, fussily self-assertive ways and bright, gushing songs.

As long ago as I can remember, House Wrens frequented the old orchard at the rear of our house. There were, I think, only one or two pairs at first, but after I began putting up boxes and olive jars in the trees and on the out-buildings the number of breeding pairs increased to three or four. They were double-brooded, as a rule, and as each female laid six or seven eggs the first time, and five or six the second, their young swarmed in the garden during most of the summer. Whenever a stray cat entered the currant bushes she was sure to start up ten or a dozen young Wrens and to be vigorously scolded by one and all of them. Both old and young birds began to leave the garden before the close of August, and we rarely saw any of them there after the middle of September. They lingered later than this, however, in woods and thickets on the outskirts of Cambridge.

At length the English Sparrows came and at once began to drive or crowd the Wrens from these long-established haunts. The Wrens resisted with all the spirit and determination for which they are so justly noted, but what could birds so small and feeble do against the army of ruthless invaders? The boxes and olive jars became quickly filled with Sparrows' nests, and even the holes in trees and buildings which were too small for the Sparrows to enter, were soon abandoned by the Wrens. The latter birds, indeed, were nearly or quite banished from our city and town centers within a period extending over but little more than five years — or from about 1875 to 1880.

Up to 1889 several pairs of Wrens continued to breed in East Watertown, not far to the westward of Mount Auburn, and in June, 1900, Mr. A. Vincent Kidder found a nest with five eggs in an apple tree near the corner of Brattle and Fayerweather Streets, Cambridge. Within the last few years migrating birds have occasionally appeared in or near our garden and also in Norton's Woods. During the past decade, however, the House Wren has been practically confined to the more thinly settled portions of the Cambridge Region where, especially in Belmont and Arlington, it still occurs in small and ever diminishing numbers, chiefly in old apple orchards. It is deplorable that a bird so unique in character and habits and so exceptionally attractive and interesting, should thus have become nearly lost to our local fauna.

231. *Olbiorchilus hiemalis* (Vieill.).

WINTER WREN.

Transient visitor, uncommon in autumn, rare in spring ; occasionally present in winter.

SEASONAL OCCURRENCE.

April 10—25.

April 29, 1893, one seen, Arlington or vicinity, W. Faxon.

September 19, 1878, one female¹ taken, Belmont, H. M. Spelman.

September 20—November 25. (Winter.)

One is most likely to meet with the Winter Wren during the month of October or the first half of November, when it is passing southward on migration. I have found it oftenest in the Fresh Pond Swamps, in the region just beyond Mount Auburn and along the high ridge that extends from Arlington to Waverley. It is a retiring and elusive little bird, given to frequenting wood piles, brush heaps, old fences and stone walls overrun with poison ivy, rocky hillsides covered with undergrowth, and tangled thickets in swamps and along the courses of brooks. In such places it may be easily overlooked, for when startled by approaching footsteps, it usually retreats at once into the innermost recesses of the nearest cover, skulking behind or under fallen trees, clusters of bushes, projecting roots and loosely piled stones, with all the address and cunning of a mouse. In winter, when the ground is covered with snow, the few birds—and they are *very* few—that sometimes remain with us inhabit ever-green woods as a rule, but in January, 1871, I found one in Waltham, that had taken up its abode in an old, disused barn which it entered by means of a conveniently placed knot-hole and from which it made short excursions in search of food along a neighboring wall.

I cannot remember ever seeing a Winter Wren in any of the more densely populated parts of Cambridge, but Mr. H. A. Purdie tells me that on October 15, 1889, his friend Mr. T. O. Fuller discovered a bird crouching in the shelter of one of the massive granite columns which support the front of the Boston Custom House. Another was observed by Miss Bertha T. Parker in Norton's Woods, on October 17, 1900.

¹No. 113, collection of H. M. Spelman.

232. *Cistothorus stellaris* (Licht.).

SHORT-BILLED MARSH WREN.

Formerly a locally common summer resident, now of infrequent occurrence, chiefly during migration.

SEASONAL OCCURRENCE.

May 6, 1882, one taken, Belmont, C. R. Lamb.

May 12—September 25.

October 9, 1875, one im. female¹ taken, Fresh Pond Marshes, W. Brewster.

NESTING DATES.

May 25—June 10.

Nuttall says² that the Short-billed Marsh Wren "arrives in this part of Massachusetts about the close of the first week in May," and that the songs of the males "may, for about a month from their arrival, be heard pleasantly echoing on a fine morning from the borders of every low marsh and wet meadow, provided with tussocks of sedge-grass." Believing the bird to be undescribed, he named it *Troglodytes brevirostris*. He also gave a full and admirable account of its habits, song, nest and eggs. The passages above quoted indicate that he met with it in considerable numbers and probably in more than one locality, although there can be little doubt that his observations were made chiefly in the Fresh Pond Marshes, where the Cabots also found the species breeding between 1832 and 1840.

During the earlier years of my own experience from five or six to ten or a dozen pairs of these Wrens nested every season in the wide, open meadows lying just to the northward of the Glacialis and in those immediately about Beech Island. This portion of the Fresh Pond Marshes was then comparatively dry in summer and covered with the fine, wiry kind of grass in which the Short-billed Marsh Wrens are given to concealing their nests; but, about 1885, during a protracted drought, fires burned deep into the peaty ground, destroying the original vegetation, which was afterwards largely replaced by rank growths of cattail flags. Since this change took place the Short-billed Marsh Wren has

¹ No. 2058, collection of William Brewster.

² T. Nuttall, Manual of the Ornithology of the United States and of Canada. The Land Birds, 1832, 437, 438.

been an infrequent visitor to the Fresh Pond Marshes, even at its seasons of migration. The only instance known to me of its recent occurrence there in summer is that of a male which Mr. Walter Faxon observed at repeated intervals between June 22 and July 28, 1899.

As long ago as the summer of 1868 Mr. H. W. Henshaw and I found three or four pairs of Short-billed Marsh Wrens, and one of their nests, in Rock Meadow. I have since seen the birds in this meadow whenever I have visited it at the proper season, but I have no evidence that they have nested there within the past ten or twelve years. As far as I know definitely, the species has been met with in summer in the Cambridge Region only at the localities above mentioned.

233. *Telmatodytes palustris* (Wils.).

LONG-BILLED MARSH WREN.

Summer resident, abundant in one locality where a few birds have also been known to remain through the winter.

SEASONAL OCCURRENCE.

May 15 — October 1. (Winter.)

NESTING DATES.

June 12 — 20.

The evident fact that Nuttall was unacquainted with the Long-billed Marsh Wren in life is fairly conclusive evidence that the bird did not occur commonly in the Fresh Pond Marshes in his time; had it done so he and the Cabots (who also apparently failed to meet with it) could scarcely have overlooked its presence. As early as 1868, however, I found a few Long-billed Marsh Wrens breeding at the eastern end of the Brickyard Swamp, and in 1875 I discovered another small colony on the banks of Little River just to the northward of Beech Island. In both places the birds were nesting in narrow belts of cattail flags which, at that time, grew only sparingly and locally in the Fresh Pond region. With the general dispersion of these flags, which followed the burning of the marshes about twenty years ago, the Long-billed Wrens began to increase in numbers and to extend their local distribution. By 1896 they had spread over the greater part of the region bounded by the Glacialis, Alewife Brook, Little

River and Pout Pond, a total area of probably not less than thirty or forty acres. Throughout most of this tract they now literally swarm from early in May to nearly the close of summer. By following the railroad embankments one may easily penetrate dry-shod to the very heart of the colony and watch the grotesque motions of the birds or listen to their odd, guttural songs; but the observer who would look for their curious globular nests should go prepared for wading through water a foot or more in depth and perhaps, also, for falling into some treacherous hole or ditch concealed beneath the luxuriant vegetation. Most of the birds depart for the south before the middle of September, but a few linger still later into the autumn; within the past decade, one or two have repeatedly passed the entire winter in the immediate neighborhood of Pout Pond, sheltering themselves from the cold beneath canopies of flags bent down by the weight of accumulated masses of snow.

Besides the localities just mentioned there are, I believe, but two others in the Cambridge Region where the Long-billed Marsh Wren has been found in summer, *viz.*: the Charles River Marshes, where, in some tall reeds bordering a tidal creek near the Cambridge Cemetery, Mr. Charles R. Lamb saw a single bird and its nearly completed nest on July 14, 1883; and the meadows bordering Beaver Brook just below the Waverley Oaks, where Mr. Richard S. Eustis heard several males singing on June 9, 1900.

234. *Certhia familiaris americana* (Bonap.).

BROWN CREEPER. TREE CREEPER. CREEPER.

Transient visitor in spring and autumn and regularly resident through the winter. More or less common at all three seasons, but most so in autumn. One instance of occurrence in midsummer.

SEASONAL OCCURRENCE.

September 12, 1891, one seen, Cambridge Region, W. Faxon.

September 25 — May 1. (Summer.)

May 8, 1893, one seen, Cambridge Region, W. Faxon.

July 17, 1878, one seen, Cambridge, C. F. Batchelder.

A few Brown Creepers sometimes appear in the Cambridge Region as early as the middle of September, but the bulk of the flight from the north does not arrive until nearly a month later. When the autumn leaves are falling freely

and for several weeks afterwards one may be reasonably sure of finding the interesting little birds in any extensive tract of woodland where large, rough-barked trees, such as pines, oaks or hemlocks, abound. As many as three or four Creepers are occasionally seen together, but as a rule they occur singly, often in more or less close companionship with Chickadees, Kinglets, Nuthatches and Downy Woodpeckers. They are by no means confined to the woods, for there are few old apple orchards in the farming districts which they do not visit more or less regularly. They also come freely and fearlessly into our cities and larger towns where they may be often seen ascending the trunks of the elms and other large trees that shade parks, lawns and even much frequented streets. Most of the birds which occur in autumn pass still further southward before the close of November, but a few always remain through the winter and Creepers are sometimes rather numerous at that season.

Mr. C. F. Batchelder tells me that on July 17, 1878, he saw a Brown Creeper on an elm in the grounds immediately about his house on Kirkland Street, Cambridge. As this date is nearly two months earlier than that on which migrants ordinarily begin to arrive from the north, it is probable that the bird just mentioned had come from some breeding ground at no great distance from the locality where it was observed.

The Brown Creeper has been found breeding at a number of localities in eastern Massachusetts. Dr. Brewer, writing in 1879, says: "I have known of its nesting . . . near Lynn, Mass., and last summer in Taunton,"¹ where a nest containing young, nearly full grown, was found by Mr. Charles T. Snow, on May 27, 1878. There is a still earlier record, by Mr. Minot, of a nest with eggs which he found "on the twentieth day of May" in the neighborhood of Boston and which was "placed in the cavity formed by the rending of a tree by lightning."² On May 23, 1900, Dr. Arthur P. Chadbourne took me to the nest of a Creeper which he had discovered a week or two before in an extensive cedar swamp at North Scituate, Massachusetts. Like the nest described by Mr. Minot, it was in the riven trunk of a tree that had been split either by lightning or by some violent gust of wind.³ It contained young at the time of my visit. In 1898 a Creeper's nest was found at Andover, Massachusetts, by the late Mr. Howard S. Ford of that place, who wrote me that "it was in a dead oak, placed within a sheath of loose bark about four feet from the ground. The tree stands in an oak grove which lies between cultivated fields on the one hand, and an extensive swamp on the other." This nest was discovered on April 26, when it

¹ T. M. Brewer, *Bulletin of the Nuttall Ornithological Club*, IV, 1879, 88.

² H. D. Minot, *Land-birds and Game-birds of New England*, 1877, 68.

³ A. P. Chadbourne, *Auk*, XXII, 1905, 179-183.

was finished but empty. There were three eggs on May 6, and six on May 13. The birds hatched and reared their young in safety, but they did not return to the grove in 1899. On June 25 of that year Mr. Ford met with three Brown Creepers at Hanover, Massachusetts, "travelling from tree to tree together, in family fashion."

In an interesting article¹ on the breeding of the Brown Creeper, Mr. F. H. Kennard and Mr. F. B. McKechnie report the recent finding of no less than five nests of this species in the neighborhood of Boston. One of these nests, containing young, was found in Canton on May 28, 1903. Of the other four, all of which had full sets of eggs in May of the following year, three were in Canton and one in Brookline. To the above records Dr. C. W. Townsend has added one for the town of Hamilton, in Essex County, where he found a pair of birds nesting in May, 1904.²

235. *Sitta carolinensis* Lath.

WHITE-BREASTED NUTHATCH. WHITE-BELLIED NUTHATCH.

Permanent resident; common in autumn, not uncommon in winter, rare in summer.

NESTING DATES.

April 19—25.

The favorite breeding haunts of the White-bellied Nuthatch are ancient woods of oak, chestnut or maple where the trees are of the largest size and more or less gone to decay. There are few woods of this character in the Cambridge Region, and most of the White-breasted Nuthatches which we see here occur in early autumn, during the southward migration, when, for several weeks in succession, the birds are sometimes rather common and conspicuous, often appearing in orchards near houses and in the large elms which shade our city streets. They are not uncommon in winter, also, especially in the suburbs of Cambridge, but ever since I can remember, they have been rare in summer.

On April 19, 1865, Mr. Daniel C. French and I took a set of seven fresh eggs of the White-breasted Nuthatch near Gray's Woods, Cambridge, and on

¹ F. H. Kennard and F. B. McKechnie, *Auk*, XXII, 1905, 183-193.

² C. W. Townsend, *Memoirs of the Nuttall Ornithological Club*, no. III. *Birds of Essex County, Massachusetts*, 1905, 307.

May 29, 1889, I found a nest containing young in an orchard just to the westward of Mount Auburn, while Mr. N. A. Francis obtained a set of nine fresh eggs¹ near Payson Park on May 1, 1893. All three nests were built in holes in old apple trees. In 1901 a pair reared their brood in the hollow trunk of a large maple in Norton's Woods — where Dr. Walter Woodman met with the species in summer between 1866 and 1874. At most of the localities just mentioned, as well as in the oak woods between Belmont and Waverley, and in those lying to the north of the Lyman estate in Waltham, I have seen White-bellied Nuthatches during the breeding season on occasions other than those above referred to, but I cannot remember ever meeting with more than a single pair during any one summer.

236. *Sitta canadensis* Linn.

RED-BREASTED NUTHATCH. RED-BELLIED NUTHATCH. CANADA NUTHATCH.

Of irregular occurrence, sometimes abundant in autumn or common in winter, occasionally found in summer.

SEASONAL OCCURRENCE.

August 15 — April 15. (Summer.)

There are years when no Canada Nuthatches can be found in the Cambridge Region, but at least a few are reported nearly every autumn and during seasons when our coniferous trees are loaded with ripening cones and those of northern New England are nearly or quite barren, the birds sometimes appear in multitudes, beginning to arrive as early as August or even the latter part of July and reaching their maximum abundance in September or October. As a rule most of them go further southward before the close of November, but a good many often remain through the winter and occasionally they are almost as numerous at the latter season as they ever are in autumn.

On first arriving from the north these Nuthatches occur nearly everywhere — even on barren points or islands along the seacoast, where they may be started in beds of beach grass or watched climbing over the surfaces of lichen-covered boulders and cliffs. Their stay in such places is brief, of course, for they soon pass on to the southward or seek more congenial haunts in the near-

¹ In the collection of N. A. Francis.

est woodlands, preferring those composed largely or wholly of white pines, pitch pines or hemlocks. They also visit cultivated grounds in the suburbs of our city, where they feed on the seeds of the Norway spruce, of which they seem to be particularly fond, and where I have known them to eat suet with evident relish. It is unusual to find more than two or three birds in any one place, but my notes mention instances of as many as forty or fifty having been seen together or in close proximity. Like the White-breasted Nuthatch, the present species associates freely with Creepers, Kinglets, Chickadees and Downy Woodpeckers, especially in autumn.

Although eastern Massachusetts evidently lies outside the normal summer range of the Red-breasted Nuthatch, the bird has been known to breed near Boston. On May 26, 1900, a nest containing three well-grown young and the same number of apparently fresh eggs was found in a "dead white birch"¹ near the banks of Charles River in Needham by Dr. Arthur L. Reagh; four days later (on May 30) Miss Mary Abby White discovered a nest with young in a hole (which I afterwards examined) in a gray birch at the entrance to Sleepy Hollow Cemetery at Concord. There is also a record² by Mr. J. A. Farley of the "probable breeding" of this Nuthatch in Medford where, "in June, 1899," Mr. F. H. Mosher saw a bird "busily engaged in catching and carrying away larvæ, presumably to its young." I mention these instances chiefly because of the indirect but nevertheless important bearing which they have on the following evidence: On May 9, 1889, Mr. Walter Faxon saw a male Canada Nuthatch near Turkey Hill in Arlington, going in and out of a small hole in the dead branch of a tupelo, about twenty feet above the ground. Mr. Faxon was unable to visit the place again until more than a month later, when on June 23 he found what he took to be the same bird among some pines near the tupelo tree. He believes that the hole which it entered on the first occasion contained its nest, but unfortunately the evidence on this point is not conclusive. A few years previous to this Mr. C. F. Batchelder had found in autumn or winter, near Arlington Heights, a pitch pine stub in which was a nest that had apparently been made or at least occupied by one of these Nuthatches, for the entrance hole was too small to have admitted any other bird of similar breeding habits excepting a Chickadee and its edges were *smear'd with pitch*. The habit of thus protecting the entrance to its nest is believed to be peculiar to the Red-breasted Nuthatch, but in the present instance there is, of course, no proof that the bird did more than *prepare* a place for the reception of its eggs.

¹A. L. Reagh, *in litt.*, July 2, 1901.

²J. A. Farley, *Auk*, XVIII, 1901, 198.

237. *Parus atricapillus* Linn.

CHICKADEE. BLACK-CAPPED CHICKADEE. BLACK-CAPPED TITMOUSE.

Permanent resident, abundant in autumn and winter, common in spring and summer.

NESTING DATES.

May 10 — 25.

Chickadees, in flocks containing from three or four to ten or a dozen birds each, may be met with almost anywhere in the Cambridge Region during autumn and winter. They seem to be more numerous at these seasons than they ever are in summer, and there are good grounds for believing that many of them come from regions further north. Indeed, it can scarcely be doubted that a considerable number of migrating Chickadees regularly pass through eastern Massachusetts in September and October. Some of these apparently go still further to the southward before the close of November, after which the birds that remain settle themselves in their winter haunts. Although they appear to ramble rather widely and aimlessly, each flock really has a well-defined and often rather restricted range, beyond the limits of which its members seldom pass. Within these limits they move actively about in search of food, reappearing at the same places with some frequency and regularity, although their movements are governed, to a certain extent, by conditions of weather. During stormy or very windy days they confine their wanderings chiefly to sheltered hillsides or to dense evergreen woods, but when the weather is calm and mild they venture well out into the open country, visiting apple orchards, clusters of trees near houses, thickets about the edges of swamps and along the courses of brooks, and lines of willows bordering causeway roads.

I remember when Chickadees appeared more or less frequently in winter throughout practically the whole of Cambridge. As far as I know they have ceased to occur — at least regularly — in Cambridgeport, but they still visit the elms in the Harvard College Grounds, the garden and shade trees along Kirkland and Oxford Streets, the trees about the Museum of Comparative Zoölogy, Norton's Woods, and most of the region — now so densely populated — lying between the Botanic Garden and Elmwood. To our garden they are familiar and almost daily visitors during the colder months, when we keep them well supplied with suet and other food. I see them here rather frequently in April, September and October, and occasionally in May and August, but seldom or never now

in June and July. They continue to breed commonly, if somewhat sparingly, in the more thinly settled parts of Watertown, Waltham, Belmont, Arlington, and Lexington, where they nest, as a rule, in birch stumps in the woods, and in hollow apple trees in old and neglected orchards. While occupied with the care of their eggs and young, they are remarkably silent and retiring birds, and for this reason they attract much less attention in summer than at other seasons. I have not seen a Chickadee's nest in any part of Cambridge since about 1864, when I found one with eggs in Dr. Morrill Wyman's place on Sparks Street. Miss Anna M. Scorgie tells me, however, that a brood of young were reared in June, 1903, within twenty-five feet of the house of her father, Mr. J. C. Scorgie, who lives on Brattle Street, just to the westward of Elmwood. The nest was in a post which supported a trellis covered with vines. Chickadees used to breed in Norton's Woods and it is possible that they do so still, for I heard a bird uttering the '*phwbe*' note there on June 26, 1901.

238. *Parus hudsonicus* Forst.

HUDSONIAN CHICKADEE. HUDSONIAN TITMOUSE.

Of uncommon and irregular occurrence in autumn and winter.

SEASONAL OCCURRENCE.

October 18, 1889, two seen, Arlington, W. Faxon.

April 5, 1890, one seen, Waverley, W. Faxon.

The Hudsonian Chickadee has been noted in the Cambridge Region at the following times and places:—

On November 1, 1866, I saw two birds together in an apple tree by the roadside (Lexington Street) in Waltham, about half a mile to the northward of 'Piety Corner.' They were very tame, and for several minutes I had them within two or three yards of me, securing a perfectly satisfactory identification.

On December 31, 1880, a female of this species was shot by Mr. H. M. Spelman¹ in a pear tree in the grounds of his father, Mr. Israel M. Spelman, on Sparks Street, Cambridge. This specimen is preserved in Mr. Spelman's collection.²

On December 31, 1884, I killed a male Hudsonian Chickadee³ in some pitch pine woods on Marsh Street, Belmont, about half a mile to the southward of Arlington Heights.

¹ H. M. Spelman, Bulletin of the Nuttall Ornithological Club, VI, 1881, 114.

² No. 80, collection of H. M. Spelman.

³ No. 9685, collection of William Brewster.

On October 18, 1889, Mr. Walter Faxon found two Hudsonian Titmice together in white pine woods in Arlington, near the borders of Winchester. On the following day one of these birds was killed by Mr. Faxon who afterwards deposited the specimen in my collection.¹ The other bird remained in the same place up to October 22.

From November 17, 1889, to April 5, 1890, Mr. Faxon had a Hudsonian Chickadee under almost daily observation in Waverley. It frequented some dense woods of white pines mixed with cedars, behind the Convalescent Home and opposite the upper part of Beaver Brook Reservation. It was sometimes found alone, but oftener with a flock of common Chickadees. Mr. Faxon is confident² that the date last given marked the termination of its stay in this locality.

The Rev. Horace W. Wright has reported³ finding four Hudsonian Chickadees (a very unusual number for one season) "in the vicinity of Boston in November, 1904." Two of these birds were observed on the 25th of the month in Belmont, one of them being seen near the village of Waverley. The other two birds were noted respectively in the Middlesex Fells, on November 4, and at Castle Hill, Ipswich, on November 12.

In connection with the records just mentioned Mr. Wright says incidentally that the Ipswich bird "gave a sweet warbling song" and one of the Belmont birds, "a few notes of the warbling song." Still more recently Mr. Clarence H. Clark, in an interesting account of some winter birds met with on February 11, 1906, in the woods near Lubec, Maine, mentions "a sweet little song of three or four notes" which was "new to" him and which he heard mingling with "the 'dee, dee, dees' and 'Chick-a-dee dees'" of a "flock of Hudsonian Chickadees (ten or twelve)." He "was not long in doubt" as to its origin, "for soon a Hudsonian came out on a limb not over three feet from" his "face and sang it right at" him.⁴ I have never heard anything of the kind from the Hudsonian Chickadee, although I am reasonably familiar with that species, having had abundant opportunities for studying its notes and habits in the forests of northern New England where I have met with it on many different occasions and during every month of the year excepting April. Besides low, chattering, conversational sounds — difficult of description but certainly far from musical in character — which the birds occasionally make while feeding, I have heard them utter only a low *chip* much like that of the common Chickadee but rather feebler, an abrupt, explosive *tch-tchip*, and a nasal, drawling *tchick, chee-dày,ày*. In the call last mentioned the interval between the doubled middle note and the single notes which precede and follow it are very pronounced and the accented notes are very strongly emphasized — characteristics which serve at once to dis-

¹ No. 25,621, collection of William Brewster.

² W. Faxon, *Auk*, VII, 1890, 407-408.

³ H. W. Wright, *Auk*, XXII, 1905, 87.

⁴ C. H. Clark, *Journal of the Maine Ornithological Society*, VIII, 1906, 27.

tinguish these sounds from any that the Black-capped Chickadee ever produces. The voice of the Hudsonian Titmouse, moreover, is usually harsh and incisive — so much so in fact as to suggest that the bird must be afflicted by chronic ill temper.

Of course I do not question the evidence furnished by the writers just quoted, but I certainly find it difficult to believe that the notes they have described can be often uttered by the Hudsonian Chickadee. If they be really a part of its regular repertoire and, above all, if they represent its characteristic *song*, I am quite at a loss to understand why I have never heard them, especially in the months of May and June, when I have spent weeks at a time camping in places where breeding birds were seen almost daily.

The following records, although extralimital, relate to localities so near the Cambridge Region that it seems worth while to mention them here:—

Brookline, 1839 or prior. Peabody's 'Report on the Ornithology of Massachusetts,' published in 1839, contains the following statement: "The HUDSON BAY TITMOUSE, *Parus Hudsonicus*, which has been hitherto unknown in Massachusetts, has been found by S. Eliot Greene, Esq. near his house in Brookline."¹

Concord, October 30, 1870. On this date I shot a Hudsonian Chickadee in mixed pine and oak woods near Nine-Acre Corner. It was in company with three Golden-crested Kinglets. The specimen is preserved in my collection. It was originally recorded in the 'American Naturalist' (VI, 1872, 306).

Concord, October 7, 1880. A bird seen this morning was feeding in company with several species of Warblers among some gray birches on a knoll about a mile to the eastward of the town center of Concord. I had a good view of it, besides hearing its characteristic notes.²

Concord and Bedford, October 31, 1896. On this date Mr. William B. Bartlett and I found a Hudsonian Chickadee on a meadow 'island' covered with birches near the banks of Concord River, about half a mile below Ball's Hill. It was quite alone, and very restless, moving quickly on through the trees and finally taking a long flight across the river and its bordering meadows to the Bedford shore, thus establishing a record for two towns in less than as many minutes.

Carlisle, October 21, 1892. While hunting Woodcock in some gray birch covers near the Carlisle cemetery, I heard, many times in succession and with perfect distinctness, the peculiar harsh call-notes of a Hudsonian Chickadee. Although I failed to see the bird, or at least to distinguish it among the dozen or more Black-capped Titmice which were fitting about among the bushes, the evidence of its near presence furnished by its unmistakable voice was, to my mind, quite conclusive.

Wellesley, October 30, 1880. I have examined the skin of a bird which was taken at the above date and locality by Mr. Sherman F. Denton.

The three instances of occurrence last mentioned have not been previously published.

¹ W. B. O. Peabody, Storer and Peabody, Reports on the Fishes, Reptiles and Birds of Massachusetts, 1839, 402.

² W. Brewster, Bulletin of the Nuttall Ornithological Club, VI, 1881, 54.

The records given above, with others that might be cited, show conclusively that the Hudsonian Chickadee appears too often in eastern Massachusetts to be considered a mere casual visitor. It is almost equally certain, on the other hand, that the species does not occur here regularly nor ever very numerously. Like the Three-toed Woodpeckers it seems to have only partially established a habit of migration. Probably the pathways leading southward are known to, and traversed by, but a limited number of birds, and these, no doubt, remain in their northern homes whenever food is abundant there in winter.

239. *Regulus satrapa* Licht.

GOLDEN-CROWNED KINGLET. GOLDEN-CRESTED WREN. GOLDEN-CREST.

Very common transient visitor in spring and autumn and not uncommon winter resident.

SEASONAL OCCURRENCE.

September 18, 1871, several seen, Fresh Pond Swamps, W. Brewster.

September 25 — April 20.

May 7, 1888, one seen, Waverley, W. Faxon.

In the mind of the bird lover whose field studies are confined to the region about Cambridge the Golden-crowned Kinglet is ever associated with leafless woods and cold, blustering weather, for it is most conspicuous and familiar in late autumn and winter. Nevertheless, the advance guard of the autumnal migration sometimes arrives as early as September 18 or 20, coming, perhaps, from some of the nearer breeding stations, such as Winchendon, Massachusetts, or Rye Beach, New Hampshire. By the middle of October the birds are usually common, but November is the month of their maximum abundance. More or less of those seen in autumn evidently go still further south to pass the winter, the proportion varying with different years. After the migration is over, the Cambridge Region is sometimes nearly depleted of Golden-crests, but they are ordinarily not uncommon, and occasionally really numerous, from December to March. The wintering birds frequent, for the most part, white pines, pitch pines and hemlocks in the woods; red cedars in the hill pastures; and Norway spruces or other exotic evergreens in cultivated grounds — often in rather densely populated localities. In company with the Chickadees, of whose society they seem to be especially fond, they also visit apple orchards, and oak and maple woods. There are times in spring and autumn when the Golden-crests apparently prefer deciduous trees — especially gray birches — to any of the evergreens.

The northward flight of Golden-crests passes through the Cambridge Region in April, when, for a week or two, the birds, although scattered widely, are often very numerous, and when the prolonged, feeble, somewhat halting songs of the males may be frequently heard during clear, warm weather.

Golden-crested Kinglets continue to appear in our garden, in autumn, winter and early spring, but we see them here much less numerously and frequently now than we did thirty or forty years ago.

240. *Regulus calendula* (Linn.).

RUBY-CROWNED KINGLET. RUBY-CROWN.

Rather common transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

April 7, 1892, two seen, Arlington, R. Hoffmann.

April 12 — May 5.

May 11, 1871, one female seen, Cambridge, W. Brewster.

September 11, 1880, one male¹ taken, Belmont, H. M. Spelman.

October 10 — 30.

November 16, 1888, one seen, Waverley, W. Faxon.

December 23, 1899, one seen, Fresh Pond, W. Faxon and R. Hoffmann.

The Ruby-crowned Kinglet visits us only during migration, the spring flight ordinarily beginning soon after the 10th of April and terminating early in May, while the autumnal movement is mainly accomplished during the month of October. Although of perfectly regular occurrence at both seasons, the active, interesting little birds are seldom very numerous, it being unusual to meet with more than three or four in the course of a single day; on exceptional occasions, however, I have known as many as a dozen or fifteen to be noted. In spring, when the males make themselves conspicuous by their incomparably brilliant, rapidly flowing songs, Ruby-crowns frequent all kinds of places, including upland woods composed of either coniferous or deciduous trees, apple orchards, and shade trees or ornamental shrubbery near houses. Their favorite haunts at this season are swampy thickets—especially of shrubby willows—on the borders of brooks, ponds and meadows. In autumn one is most apt to find them

¹No. 54, collection of H. M. Spelman.

in dense second-growth woods shading low ground, or among gray birches on hillsides. At both times of year they usually occur singly, although they often associate with various species of Warblers and sometimes with Chickadees or with Golden-crested Kinglets. They visit our garden rather regularly and not so very infrequently in late April and early May and occasionally in September, also. I have few recent records of their appearance in other parts of the city of Cambridge, but we used to see them every autumn in the Fresh Pond Swamps.

On December 23, 1899, Mr. Walter Faxon and Mr. Ralph Hoffmann found a Ruby-crowned Kinglet in an arbor vitæ hedge near Fresh Pond. It is probable that this bird was merely a belated migrant, for although carefully looked for afterward it was not again seen.

241. *Hylocichla mustelina* (Gmel.).

WOOD THRUSH.

Locally common summer resident.

SEASONAL OCCURRENCE.

May 4, 1892, one seen, East Lexington, W. Faxon.

May 10 — September 15.

November 18, 1897, one seen (Wellesley Hills), B. Torrey.

NESTING DATES.

May 26 — June 5.

The Wood Thrush breeds regularly in the more retired parts of Arlington, Belmont, Waltham, and Lexington, but in no one of these towns is it at all generally or plentifully distributed, although at a few localities, as along the elevated ridge that extends from Arlington to Waverley, about Rock Meadow and in the neighborhood of Prospect Hill, it is — and has been, ever since I can remember, — fairly common. It sometimes frequents dry hillsides covered with dense, young second-growth, but it prefers places where the ground is moist and heavily shaded by large trees and its favorite haunts are rocky glens, springy runs, the courses of brooks, and the borders of swamps.

Our Wood Thrushes return from the south early in May. Sometimes they are silent for a few days following the date of their arrival, but if the weather be favorable they often begin singing almost immediately after they have reached their breeding grounds. One may hear them at their best about sun-

set of a clear, calm evening, or during almost any hour of the day when fine, misty rain is falling. At such times their rich, contralto voices, swelling and sinking in measured cadences, ring and echo through the arches under the trees. When, as not infrequently happens, three or four males are singing within ear-shot of one another, each striving his utmost to outdo his rivals, they furnish a woodland concert not less impressive than delightful.

The Wood Thrush used to visit the Fresh Pond Swamps at its seasons of migration, when I have also repeatedly noted it in our garden, but I have never met with it in summer much to the eastward of the town centers of Arlington, Waverley and Watertown. Mr. Walter Faxon tells me, however, that on returning to Cambridge about the middle of June, 1896, he found two males established and singing freely near Oxford Street, Cambridge. One was in the grounds of the Museum of Comparative Zoölogy (usually in the trees that shade the western entrance to that building), the other, not far from the corner of Oxford and Kirkland Streets. Both birds were heard almost daily up to the middle of July, when they became silent, although one of them sang again a few times on the morning of August 2, during a rainstorm. In 1903 a Wood Thrush was again heard singing, on a number of occasions in early summer, near the Museum of Comparative Zoölogy. It is possible that all three of the birds just mentioned were breeding in the neighborhood of the Museum, but if so their mates and nests escaped observation.

242. **Hylocichla fuscescens** (Steph.).

WILSON'S THRUSH. TAWNY THRUSH. VEERY.

Summer resident, locally abundant.

SEASONAL OCCURRENCE.

May 3, 1890, one heard, Fresh Pond Swamps, W. Brewster.

May 8 — September 5.

October 14, 1871, one taken, Fresh Pond Swamps, F. P. Atkinson.

NESTING DATES.

May 28 — June 5.

Wilson's Thrushes begin to arrive from the south some time between the 2d and the 8th or 10th of May. Unlike most of our summer birds, they seldom

or never sing for a week or more after their first appearance; but from the 15th or 20th of May to nearly the end of July there are few wooded swamps in the Cambridge Region that do not ring at morning and evening—and also more or less frequently throughout the day—with the clear, flute-like voice of the Veery. In the Fresh Pond Swamps and about Rock Meadow one may hear the songs of as many as four or five males coming, in quick succession, from different parts of the leafy coverts in which the birds are concealed. They love to haunt low, wet places, such as maple swamps, alder runs and the wooded banks of brooks—places which lie buried in deep, cool shade, even at noonday, and from which issue, especially at evening, all manner of subtle and, for the most part, delightful, swampy odors—besides swarms of ravenous mosquitoes.

Here the Tawny Thrushes build their nests, usually on or very near the ground but occasionally eight or ten feet above it in small trees. The tree nests are easily seen, of course, but those placed on the ground are difficult to find, for most of them are concealed in beds of rank ferns or in the tops of grassy tussocks, often in very boggy places on the edges of ditches or of shallow, muddy pools. When flushed, the sitting birds sometimes rise under foot, especially if their eggs are near hatching, but, as a rule, they fly up when the intruder is several rods from the nest and in so natural and careless a manner as not to call attention to its presence.

I have known Veeries to breed in perfectly dry oak and pine woods, on the sides and summits of hills, in Lincoln and Concord, and in an orchard on the crest of a ridge in Cambridge, not far from the Pine Swamp, Mr. H. A. Purdie and I once found a nest built on the horizontal branch of an apple tree fully ten feet above the ground. It contained eggs, on which the parent bird was sitting.

Thoreau, referring probably to the period (1833–1837) when he was at Harvard College, says¹ of the Veery: “In Cambridge I have heard the college yard ring with its trill.” According to Dr. Walter Woodman the species frequented Norton’s Woods in summer from 1866 to 1874, but it now occurs there only during migration, when it continues to visit our garden with some regularity, especially in spring. The return flight southward begins in August and ordinarily ends before the close of the first week of September. At this season the birds are often seen in dry upland woods or in thickets bordering neglected fields and pastures, perhaps feeding in company with Robins and Cedarbirds on the fruit of the rum cherry.

¹ H. D. Thoreau, *Excursions*, 1863, 48, foot-note.

243. *Hylocichla aliciaë* (Baird).

GRAY-CHEEKED THRUSH. ALICE'S THRUSH.

Uncommon transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

May 13, 1895, one large male seen and heard, Cambridge, W. Brewster.

May 18—28.

June 2, 1898, one large bird seen (Concord), W. Brewster.

September 10, 1892, one male¹ taken, Cambridge.

September 15—October 9.

244. *Hylocichla aliciaë bicknelli* Ridgw.

BICKNELL'S THRUSH.

Rather common transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

May 2, 1894, one seen, Arlington, W. Faxon.

May 30, 1882, one female² taken, Belmont.

September 25—October 5.

It is difficult to distinguish the Gray-cheeked from the Bicknell's Thrush without using a gun, for these birds differ only in size, their coloring, their haunts, their habits, and their songs and call-notes, being essentially the same. In the Cambridge Region the larger and more northern-breeding form, *aliciaë*, occurs decidedly the less often of the two, and its vernal migration apparently takes place somewhat later than that of *bicknelli* although between the 15th and 25th of May, as well as in early October, the two birds may be sometimes found together. Like most of the spotted-breasted Thrushes belonging to the genus *Hylocichla* they dislike strong sunlight, which, no doubt, is trying to their fine, large, dreamy-looking eyes. In spring they frequent, for the most part, upland woods and thickets where there are crowded growths of young pines or

¹ No. 45,174, collection of William Brewster.

² No. 7606, collection of William Brewster.

other evergreens or where the ground is deeply carpeted with fallen leaves, among which they search industriously for worms and the larvæ of insects. In autumn, when they subsist largely on berries, they are found oftenest in dense, moist thickets, such as those in the Fresh Pond Swamps, where they eat the fruit of the cornels and of the deadly nightshade. They may also be seen along country roads and lanes bordered by woodland, where they feed on the berries of the barberry, spice-bush, wild grape, woodbine and poison ivy. When met with in retired places they are almost invariably silent and so shy that it is difficult to approach them closely; but in our garden, where they occur very regularly late in May and more or less frequently in October, and where they often linger for days in succession, they soon become accustomed to our presence and comparatively tame. Indeed we often see them hopping about over the flowerbeds, along the garden walks, and on the turf under the trees, almost as boldly and familiarly as the Robins. In this garden, moreover, they sometimes sing a little, usually at morning or evening, or during rainy weather.

245. *Hylocichla ustulata swainsoni* (Cab.).

OLIVE-BACKED THRUSH. OLIVE-BACK. SWAINSON'S THRUSH.

Common transient visitor in spring and autumn.

SEASONAL OCCURRENCE.

May 9, 1895, one seen, Belmont, R. Hoffmann.

May 12 — 28.

June 5, 1888, one male seen, singing, Waverley, W. Faxon.

September 9, 1870, "first seen today," Fresh Pond Swamps, H. W. Henshaw.

September 15 — October 5.

October 15, 1878, one female¹ taken, Belmont, H. M. Spelman.

During its migratory visits to the Cambridge Region the Olive-backed Thrush frequents much the same places as do the Gray-cheeked and Bicknell's Thrushes; indeed all three birds may be sometimes found together in the same thicket. Their habits, also, are essentially similar, but the Olive-back is decidedly tamer than either of the other two and there is seldom any difficulty in getting sufficiently near it to make out its chief distinguishing markings — the light ring around the eye and the deep buffy ground color of the throat and

¹ No. 19, collection of H. M. Spelman.

breast. Not infrequently in spring, and occasionally in autumn, also, we hear its measured, impressive song, usually given *sotto voce*, although in the evening twilight, or when the trees are dripping just after a shower, a bird will sometimes sing steadily and with full vigor for fifteen or twenty minutes at a time. In my own experience, this has happened oftenest in our garden, where Swainson's Thrush occurs very regularly in May and where it makes itself so much at home that I have known a bird to remain with us continuously for three consecutive weeks.

246. *Hylocichla guttata pallasii* (Cab.).

HERMIT THRUSH. HERMIT.

Very common transient visitor in early spring and mid-autumn; occasionally seen in winter; one instance of occurrence in summer.

SEASONAL OCCURRENCE.

April 8, 1890, one seen, singing, East Lexington, W. Faxon.

April 15 — May 5. (Summer.)

May 11, 1900, one seen, Cambridge, W. Deane.

September 23, 1894, one seen, Arlington, W. Faxon.

October 5 — November 15. (Winter.)

November 22, 1869, one male taken, Cambridge, W. Brewster.

A few pairs of Hermit Thrushes breed every season in Concord and Billerica, as well as at various places in Essex County, and once (in 1867 or 1868) I heard a male singing late in June on a wooded hilltop on the Trapelo Road about a mile to the westward of Sherman's Pond. The locality last mentioned is the only one actually within the Cambridge Region, where I have ever known the Hermit to be noted in summer. It visits us regularly at its seasons of migration, occurring most numerous in April and October, when as many as ten or a dozen birds may be met with in the course of a single day. In spring they are most likely to be found in dry upland woods, sometimes among white pines, pitch pines, hemlocks or red cedars, but oftenest where the prevailing growth is of oaks, maples, birches or other deciduous trees and where the ground is covered deep with fallen leaves. In autumn they frequently resort to swampy thickets to feed on the berries of the nightshade and black alder, and to the borders of fields and country roadsides where they eat the fruit of the barberry, privet, woodbine and poison ivy. At both seasons we often see them in

our garden. When on their breeding grounds, they are among the shyest and most retiring of birds, but during their migratory visits to the Cambridge Region they show almost no fear of man.

Much has been written concerning the song of the Hermit Thrush. It is generally, and, I think, rightly, judged to be superior to that of any other New England bird. To appreciate it fully one must visit a region where the Hermit is breeding in numbers, for this Thrush seldom sings freely or well except in its summer haunts and the songs of different birds are unequal in merit. When three or four males are singing together it will usually be noticed that one out-classes all the others. Occasionally one may be met with whose notes are simply perfect in tone and faultless in execution. To listen to a bird of this class singing in the gloaming and sending his impressive voice far and wide over some lake or clearing deep in the heart of a primitive forest, is rich reward for a long and difficult journey. One must travel far beyond the confines of the Cambridge Region to enjoy such an experience, but Hermit Thrushes may be heard under somewhat less favorable conditions almost any evening in June or July about the northern shores of Fairhaven Bay, in Concord, Massachusetts.

Although the Hermit Thrush usually passes well to the southward of New England to spend the winter, it has been repeatedly observed at that season near Boston. On January 12, 1891, Mr. Walter Faxon saw one in pine woods near the Convalescent Home at Waverley, and on February 14 of the following year Mr. Ralph Hoffmann found two others in the same neighborhood feeding on privet berries. A bird was also met with somewhere in Cambridge by Mr. Frank Bolles in February, 1892, while in 1901 I found one in Mount Auburn on December 7, and on the 13th, 14th, 16th and 17th of the same month another was noted in the Botanic Garden by Mr. Richard S. Eustis. During the winter of 1903-1904 a Hermit appeared in our garden almost daily from December 16 to 31, and afterwards at frequent intervals up to February 9. This bird was fed regularly on bread crumbs by Mr. Walter Deane and it was seen to eat barberries on several occasions.

The winter last mentioned will long be remembered for its deep snows and protracted periods of intense cold. Indeed no winter equalling it in general severity has come and gone within my recollection. Yet in addition to the Hermit which was seen in our garden no less than four Thrushes of the same species were noted elsewhere in the immediate neighborhood of Boston during the same period. Why so many of them should have attempted to remain here through such a terrible season is perhaps not more remarkable and mysterious than is the extreme scarcity of birds of almost every kind which is so often characteristic, at least in eastern Massachusetts, of exceptionally mild winters — like the one (that of 1905-1906) just ended, for example.

247. *Merula migratoria* (Linn.).

AMERICAN ROBIN. ROBIN.

Permanent resident, abundant in spring, summer and autumn; of somewhat irregular occurrence in winter.

NESTING DATES.

April 25—May 5.

Of all our native birds the Robin is perhaps best able to adapt himself to changed or changing conditions. Trustful, in a wisely discriminating way, in his attitude towards man; ever on the alert for prowling cats;¹ too big and brave to be bullied or crowded by English Sparrows; he regards the conversion of farming lands and orchards into densely populated suburbs with apparent indifference, and easily contents himself with a narrow strip of lawn as a feeding ground, and the branch or fork of some large shade tree as a site for his nest. Thus he still clings persistently to many urban localities which most of our native birds have long since nearly or quite deserted. Indeed there are few neighborhoods in Cambridge or its suburbs which he does not continue to bless by his cheery presence and loud, musical song. Throughout the region lying between Harvard Square and Mount Auburn his numbers have not materially diminished during the past thirty or forty years. Still further inland he occurs practically everywhere, but most numerous and conspicuously in the farming districts and about the outskirts of towns and villages.

These statements relate, of course, chiefly to spring and early summer, for soon after rearing their second broods of young—most of which are able to shift for themselves before the middle of August—our Robins change not only their haunts but their habits, also. Abandoning their diet of earthworms, and assembling in flocks, they now range widely over the country in search of berries of various kinds, on which they subsist almost wholly during the remainder of the year. It is true that they revisit our city gardens in early September when the rum cherries are ripe, and that even later in the year we occasionally see them running about in the old familiar way over our lawns and flower-beds, but throughout the autumn they spend most of their time in retired fields, pastures and woodlands, or in swampy thickets bordering brooks and meadows. Most if not all of our local-bred birds depart for the south before the close of October.

¹ This is true only of adult birds, for very many of the young are destroyed by cats.

In November their places are taken by migrants from further north, which sometimes appear suddenly in immense flocks and, after literally flooding the country for several successive days, pass on further to the southward. Robins are ordinarily scarcer in December than at any other season, and occasionally they are almost wholly absent during that month, but they nearly always reappear — often in very great numbers — in January or February. This midwinter influx is probably composed of the birds which go south very late in autumn; almost certainly it does not include any of those which breed with us, for the latter evidently make up the flights which depart in September and October and return in March and early April.

Our wintering Robins subsist chiefly on the berries of the Virginia juniper or red cedar. They are seen in the greatest numbers on the cedar-clad slopes of the high ridge that extends from Arlington to Waverley and on those of the hills which lie beyond Beaver Brook in Waltham. I remember when they were to be found by hundreds in the country immediately to the westward of Mount Auburn, where they fed quite as freely on the berries of the asparagus as on those of the red cedar; but this region has nearly ceased to attract them in winter. When the buckthorn hedges which formerly bordered both sides of Fresh Pond Lane were well loaded with fruit they were sometimes visited in January or February by large flocks of Robins and a few birds still appear during these months in our city gardens to feast on the berries of the mountain ash.

I do not know that Robins were less dear to the people of Cambridge in the days of my youth than they are at the present time. Then as now we looked for their coming in early spring with eager expectation, and when at length they returned to our fields and gardens, and once more filled the air at morning and evening with their strong, earnest songs and bright, cheery calls, they were welcomed very cordially and not without feelings of gratitude and affection. But popular standards regarding the taking of bird life were widely different then from what they are today. We were then less far removed from the primitive ages when man was impatient of restraint and accustomed to kill, without let or hindrance, every kind of creature that could be put to practical use. There were birds in plenty, and such laws as had been framed for their protection were too loosely enforced to be very seriously regarded. Indeed, the known wish of an invalid friend or neighbor for a delicate morsel of flesh, or the supposed need of practising a young pointer or setter in the accomplishment of retrieving, was held to be a sufficient excuse for sacrificing an occasional Robin or Woodcock at almost any season. In April, May and June, however, Robins were seldom molested save by thoughtless boys and predatory cats. But when in July the birds assembled in force to attack the ripening cherries we did not hesitate to protect our fruit by a liberal use of powder and shot. Although objected to by

a few persons this practice was approved, or at least tolerated, by the general public, even in the heart of Cambridge, and the slaughtered birds — as I well remember — made excellent pot pies. Later in the season they were killed in still larger numbers, for food or sport, by gunners too inexperienced or unskilful to often succeed in the pursuit of nobler game. In August the birds were shot at their roosts in the Fresh Pond Swamps; in early September, about rum cherry trees growing along roadsides and near farmhouses; during October and November, in the hill pastures of Belmont and Arlington; throughout the winter, in the cedar groves and at the asparagus beds lying immediately to the westward of Mount Auburn. But the killing of Robins for whatever purpose has long since come to be generally condemned and to be sternly repressed. It is not now often attempted, I believe, save by Italians with whom the officers of the law find it difficult to deal.

In the Cambridge Region, as elsewhere, the Robin is notorious for the wide range of choice which it exercises in selecting a place for its nest. Early in the season, it prefers to build in a pine, spruce or other evergreen, but after the middle of May it is content with any kind of deciduous tree. The usual or typical position of the nest is in a strong, upright fork or on a stout horizontal branch. These rules are subject, however, to frequent exceptions. Indeed it is not uncommon for birds to build in niches or on ledges furnished by the woodwork of porches and piazzas; on rough timbers in open sheds; and on projections under wide eaves. I once saw a nest in Cambridge that quite filled a bird-house which had lost its roof, and another in Lexington that rested on the hub of a wheel attached to an old tip-cart, while a third, found in Waltham, was on the ground at the base of a tree, on a sloping, wooded bank by the roadside.

The fact that Robins form roosts, at which they assemble every evening in summer, in considerable numbers, to pass the night together, was overlooked or ignored until 1890, since when it has been dealt with at much length by several writers.¹ The roosting places are usually swampy or at least low-lying woods composed of such deciduous trees as maples, oaks, chestnuts and birches, sometimes intermingled with white pines. The first broods of young Robins begin to accompany the old males to the roosts early in June, but the birds do not assemble in full numbers before the last of July or early in August when the old females with their second broods are free to join the general throng. After the middle of September the roosting flights begin to wane and by the end of the first week of October they are practically ended.

There have been several noteworthy Robin roosts in the Cambridge Region within the period covered by my recollection. In 1867 and for a few years later

¹ B. Torrey, *Atlantic Monthly*, LXVI, 1890, 492-498. W. Brewster, *Auk*, VII, 1890, 360-373. O. Widmann, *Auk*, XII, 1895, 1-11.

about two thousand birds resorted nightly, at the height of the season, to the Maple Swamp. In either 1873 or 1874 they deserted this place and formed another roost in a similar piece of swampy woods on the northern side of the Fresh Pond Marshes, near where Little River joins Alewife Brook, and partly within the confines of Arlington. This roost was many times more populous than the earlier one, for it included, in addition to the whole Cambridge contingent, a great number of birds drawn from the neighboring portions of Arlington and Belmont. Indeed, at the height of its prosperity it sometimes sheltered, if my notes may be trusted, upwards of twenty-five thousand Robins. It was frequented until 1876 when the woods were cut down.

On August 25, 1884, I discovered a Robin roost on the dividing line between Belmont and Waltham, just above the upper pond in the Beaver Brook Reservation. It then contained an imposing number of birds—"thousands," according to my notes. Judging by counts and estimates made by Mr. Walter Faxon, the number of Robins which visited it in 1889 must have sometimes reached a total of eight to ten thousand. There are good reasons for believing that it was originally formed of the scattered legions from the Little River roost—distant less than three miles in an air line to the eastward.

I have had no report of the Beaver Brook colony for ten or twelve years and I am by no means sure that it is still in existence. Indeed I have reason to suspect that the Robins which frequent Arlington and Belmont now roost somewhere to the westward of Great Meadow, for I saw them flying in that direction by hundreds on the evening of September 26, 1901.

In 1881 and for some twelve years later most if not all of the Robins which bred in Cambridge and its suburbs roosted in Norton's Woods, where careful estimates, made by Mr. C. F. Batchelder in July, 1890, aggregated as high as fifteen hundred birds. Mr. Batchelder tells me that our Cambridge Robins ceased to resort to these woods in 1894 or 1895. Late in June, 1902, they began assembling every evening—to my infinite surprise—in some ancient lilacs which form a dense and rather extensive thicket in the garden immediately behind our house. At first there were not more than twenty or thirty birds, but their numbers rapidly increased until by the close of the summer we often counted as many as four or five hundred.

The first Robins returned to our garden on March 12 of the following spring. The gardener reported that upwards of fifty birds assembled at the roost the next evening, and that they flew into and about the thicket of lilacs as if preparing to spend the night there, but that all of them departed before it had become quite dark. The same thing came under my own observation a few evenings afterwards, and also on several occasions towards the end of the month. I was absent from Cambridge during most of April, but on the evening of the 29th I saw twenty-five or thirty Robins settle themselves for the night in the

lilacs, which were then fairly well covered with young foliage. During the whole of May the roost was frequented nightly by fifty or more birds, all apparently old males. By the middle of June these were joined by the first broods of young, and a month or so later by the old females with their second broods. Thus the number of Robins steadily increased until early in August, when it probably reached its maximum and when we sometimes noted upwards of seven hundred birds in the course of a single evening. The frequent presence of members of my family on the back piazza (which is only a few yards from the lilacs) when the evening flight was coming in, gave the Robins some concern at first, but they soon became perfectly reconciled to it. They occupied the roost for the third time in 1904, and for the fourth time in 1905, but during both years they were somewhat less numerous than in 1903.

As the piazza faces a little opening about which the lilacs are grouped on the remaining three sides, it commands an unobstructed view of the roost and affords rare facilities for watching the birds at close range. I have been interested to learn that a sound resembling the pattering of hail, which is heard when they are fluttering among the foliage and which I had formerly supposed to be caused by their wings striking the leaves, is really made, at least in part, by their bills. When two or more of them are contesting for possession of the same perch they first threaten one another with wide-opened beaks and then bring their mandibles rapidly and forcibly together, thereby producing the sound above described. After they have quite ceased their calling and fluttering one may pass—even in bright moonlight—within a yard or two of branches where they are roosting by dozens without disturbing them. They invariably begin to leave the roost at daybreak, usually departing singly or in small parties, and scattering in every direction. When the exodus is performed in this manner, it often continues until sunrise. On several occasions, however, I have seen practically the entire body of birds leave simultaneously in the morning twilight, in one immense flock, with a prodigious whirring of wings. The evening flights vary similarly in character but to a less degree. Ordinarily the incoming birds are arriving more or less continuously for half an hour or more, but occasionally the majority of them will appear in the course of ten or twelve minutes, this usually happening when the weather is stormy.

The original selection of our garden for a roosting place by the Robins was due, no doubt, to the fact that it is completely surrounded by a cat-proof fence. Although the birds are certainly not molested by cats, something—perhaps a Screech Owl—has alarmed them greatly on several recent occasions, when, in the middle of the night, they have been heard to leave the roost with loud, excited calling. On the whole, however, they evidently find the lilac copse a safe and congenial sanctuary despite the fact that it lies so near the heart of a large city.

248. *Sialia sialis* (Linn.).

BLUEBIRD.

Abundant transient visitor in early spring and mid-autumn and rather common summer resident. Of probable occurrence in winter.

SEASONAL OCCURRENCE.

February 20, 1887, a pair seen, Lexington, W. Faxon.

March 6—November 1. (Winter?)

November 20, 1887, one seen, Waverley, W. Faxon.

NESTING DATES.

April 15—25.

The Bluebird is scarcely less familiar and confiding than the House Wren, but, unlike that species, it is rather dependent for feeding grounds on wide, open spaces of grass-covered or cultivated land. Nevertheless it used to breed throughout Cambridge and even on Boston Common. Nor did it abandon these urban haunts until forced to do so by the House Sparrows. As in the case of the Wrens, the struggle was of comparatively short duration. It began about 1875, and was practically ended by 1885, at least in the region lying to the eastward of Fresh Pond and Mount Auburn. Throughout most of the country situated to the westward of this region the Sparrows are not as yet sufficiently numerous and generally dispersed to interfere very seriously with the Bluebirds. The latter, indeed, continue to breed commonly, if somewhat sparingly, in many of the more thinly settled parts of Arlington, Belmont, Waverley, Waltham and Lexington, where their favorite summer haunts are old apple orchards bordering on open fields or farm lands. At their seasons of migration Bluebirds still occur rather numerous in the region lying between Lake View Avenue and Fresh Pond as well as in that directly to the westward of Mount Auburn.

Immense numbers of Bluebirds perished of cold or starvation in January and February, 1895, at their winter homes in the South. For several successive summers immediately following this year the birds were exceptionally scarce throughout most of their breeding ranges at the North, and in many localities where they had previously nested abundantly literally none were noted. Very few were seen in the Cambridge Region in 1895 and 1896, but they multiplied rapidly here, as well as in most other parts of New England, during the next

three years, and since 1900 they have been even more numerous than they were before the disaster above mentioned. As a result of this numerical rebound certain of the birds, crowded out of haunts to which the species has been confined during the past quarter of a century, have been forced to take up their abode in various unaccustomed places. At Concord they have begun to breed rather commonly in dense oak woods, and in the Cambridge Region to re-invade some of the territory from which they were driven by the House Sparrows twenty years or more ago. Since 1901 a pair have reared young every season in an apple orchard bordering on Huron Avenue, Cambridge, and Mr. J. D. Sornborger is very sure that another pair nested near the Museum of Comparative Zoölogy in 1903. In 1905 Bluebirds bred in the immediate neighborhood of our own place for the first time in over twenty years. One pair took possession of a box fastened to the side of a summer-house in grounds at the corner of Sparks and Highland Streets, belonging to Mr. J. A. Noyes, while another made use of a deserted Woodpecker's hole in a poplar stub at the rear of Mr. E. L. Beard's house on Brattle Street. Both pairs brought out their broods in safety.

In early spring, during or immediately after heavy snow-falls, Bluebirds sometimes resort to groves of red cedars, on the berries of which they feed greedily until the ground becomes bare again. At such times I have found as many as twenty or thirty collected in one place among the cedars to the westward of Mount Auburn or in those near Arlington Heights and Belmont. In autumn the birds are almost invariably met with in flocks, usually in fields or pastures sprinkled with large oak or apple trees, or along country roadsides bordered by scattered trees.

Although I cannot learn that the Bluebird has ever been found in the Cambridge Region in midwinter, it has been known to occur at that season no further away than Wellesley; and at Melrose Highlands, according to Mr. Bradford Torrey (*Auk*, VIII, 1891, 239-240), one was seen at frequent intervals between December 9 and February 5 in the winter of 1890-1891.

ADDITIONAL NOTES.

Catharista urubu (Vieill.).

BLACK VULTURE.

Casual visitor from the South Atlantic States.

A record (*Auk*, XXIII, 1906, 222) of a Black Vulture taken by Mr. J. H. Storer, Jr., in Waltham, Massachusetts, on September 15, 1905, appears only just in time for mention in the closing pages of this Memoir. "When first seen, at dusk, the vulture was sitting on the top of a tall dead pine tree, on the edge of some woods, about two miles north of the town." The bird was shot by Mr. Storer as it attempted to fly over him, and the specimen is now in his collection. It is the first Black Vulture known to have occurred in the Cambridge Region and the sixth that has been killed in Massachusetts. The other five birds were taken respectively at Swampscott in November, 1850; at Gloucester on September 28, 1863; at Hudson, shortly before 1870; at Plymouth on July 5, 1890; and at Taunton on October 5, 1902.

BARRED OWL. *Syrnium varium* (Barton).—Just as the last sheets of this Memoir are going to press I learn from Mr. J. H. Hardy, Jr., that a pair of Barred Owls bred in Belmont, not far from Arlington Heights, "about twenty years ago." Mr. Hardy (who was then only fourteen years of age) with two other boys found three young Owls, well grown and partly feathered, but unable to fly, perched in a big elm just below a long, vertical slit in the side of the trunk that gave access to a generous-sized cavity which contained the nest. The old birds had been seen before this, flying about near the elm which, with several other large trees of the same kind, grew in a swampy hollow on high and, for the most part, open ground, not far from rather extensive woods. The young Owls were taken and distributed among the three boys who, however, failed to rear any of them to maturity.

PHILLIPS'S WOODPECKER. *Picus phillipsii* Aud.— Nuttall says (The Land Birds, ed. 2, 1840, 686) that the type specimen of Phillips's Woodpecker "was killed in the vicinity of Cambridge, Massachusetts," but whether or not within the limits of the region covered by the present Memoir we are, and probably always shall be, left in doubt. Not that the matter is of more than passing interest, for ornithologists have long since concluded that the bird in question was merely a young Hairy Woodpecker. Whether it belonged to the typical form of that species or to the large northern form, now called *leucomelas*, they are not, however, agreed. I am decidedly of the opinion that all the Hairy Woodpeckers which breed in New England (even in northern Maine, New Hampshire and Vermont) should be referred to *villosus*. The type of *Picus phillipsii* must have been reared near the place where it was taken, for it was certainly a young bird in first or natal plumage, despite the fact that both Audubon and Nuttall believed it to be an 'adult male.'

LOUISIANA WATER-THRUSH. *Seiurus motacilla* (Vieill.).— Mr. Reginald Heber Howe, Jr., has reported (Auk, XIX, 1902, 292) that "on May 21, 1902, Messrs. Francis G. and Maurice C. Blake of Brookline observed" a Louisiana Water-Thrush "on the north bank of the Charles River, above Waltham. The bird was watched from within a few feet and there is no doubt of its correct identification." I learn from Mr. Howe that it was met with immediately *above* the point where Stony Brook enters Charles River and hence just outside one of the definite boundaries of the Cambridge Region. For this reason I did not discuss nor even mention the matter in what might otherwise have been its appropriate place, *viz.*, in the main text of the present Memoir. I will now say, however, that I cannot share Mr. Howe's confidence in the accuracy of this record. I distrust it (1) because it rests on a sight identification by observers who, I am told, had had no previous experience with the Louisiana Water-Thrush in life; (2) because this species is habitually so shy as seldom, if ever, to permit near and open approach (the Blakes were on the river in a canoe when they noted the bird); and (3) because on the date when the observation was made the Northern Water-Thrush (which may often be "watched from within a few feet") is of common occurrence along the banks of most of our Massachusetts rivers.

No such doubts can attach, I think, to the record by Mr. Bradford Torrey (Auk, XIX, 1902, 292) of a Louisiana Water-Thrush seen by him and also by Mr. C. J. Maynard in Wellesley, Massachusetts, in 1902. The early date (April 13) on which this bird appeared would alone furnish practically conclusive evidence that it must have been a Louisiana, and not a Northern, Water-Thrush. Wellesley, however, is not included in the Cambridge Region.

EXPLANATION OF PLATES.

	TO FACE PAGE
I. Thomas Nuttall <i>Frontispiece</i> From a photograph taken by Mr. C. F. Batchelder from the original oil painting in the possession of the Boston Society of Natural History. The painting was presented to the Society by Mrs. James Brown of Watertown, Massachusetts, on October 2, 1855. In 1859 that portion of Watertown where Mrs. Brown lived was incorporated in the town of Belmont.	
II. Map of the Cambridge Region Made by Mr. Charles D. Elliot under the supervision of the author.	11
III. A secluded pool in the Maple Swamp, Cambridge From a photograph taken by the author on June 23, 1900.	47
IV. Map of Cambridge, as existing in 1635 Compiled by Mr. Charles D. Elliot. Reprinted through the courtesy of Edward J. Brandon, City Clerk of Cambridge, from 'Records of the Town of Cambridge (formerly Newtowne) Massachusetts, 1630-1703,' published in 1901.	69
V. Cabot shooting stand, existing at the outlet of Fresh Pond between 1832 and 1840 Drawn from memory by Mr. Edward C. Cabot shortly before his death in 1901. The shooting stand is on the right of the picture. In the background is shown the wooden bridge by which Concord Turnpike crossed Alewife Brook.	83
VI. Brewster's Linnet (<i>Acanthis brewsterii</i> (Ridgway)) From a water-color drawing of the original specimen by Mr. Louis Agassiz Fuertes.	260
VII. Map of Fresh Pond and its surroundings, as existing about 1866 Prepared by Mr. Charles D. Elliot. Based partly on published maps, but largely, also, on original notes, data and sketches furnished by the author.	426

INDEX.

Heavy-faced type indicates the principal reference to any subject.

All important references to each bird are to be found under its scientific, and its vernacular, name, as used in the Check-List of the American Ornithologists' Union.

Unless otherwise specified, streets mentioned are in Cambridge, and towns mentioned are in Massachusetts.

- A. D. CLUB, 82.
 Abbot, Samuel L., 198.
 Abbott, Edwin H., 206.
 Acacia Street, 295.
 Acadian Owl, 59, **200**.
 Sharp-tail, 275.
 Sharp-tailed Finch, 32, **275**.
 Sparrow, 32, 57, 274, **275**.
acadica, *Cryptoglaux*, 56, 59, 61, 199, **200**.
Acanthis brewsterii, 58, **260**.
 hornemannii exilipes, 58, 59, **258-260**.
 linaria, 28, 35, 56, 59, **258-261**, 263.
 holboëllii, 58, 59, **259**, 260.
 rostrata, 56, 59, **259**, 260.
 Accidental visitors, 57.
Accipiter atricapillus, 57, **185**.
 cooperii, 55, **184**.
 velox, 18, 56, **183**, 321.
accipitrinus, Asio, 56, **196**.
Acementicus [Me.], 70.
Actitis macularia, 33, 38, 55, 60, **167**.
Actodromas maculata, 32, 57, **153**.
 minutilla, 32, 56, **159-161**, 169.
 Acton, 336.
acuta, Dacula, 41, 49, 57, **110**.
 Adams, C. F., Jr., 69, 70, 121, 128, 130, 142, 172, 175.
 Adams estate, 215, 239, 244, 334.
aëdon, *Troglodytes*, 13, 18, 21, 26-28, 35, 53, 55, 61, 66-68, 256, 304, **367**, 395.
Ægialitis semipalmata, 32, 33, 57, 115, 117, 161, **169**.
Ægiothus flavirostris, 260.
 brewsterii, 260.
æneus, *Quiscalus quiscula*, 12, 14, 22, 25, 55, 67, 241, 248, **249**, 251.
æstiva, *Dendroica*, 13, 15, 21, 25, 28, 29, 49, 51, 55, 63, 240, 325, **331**, 337, 354.
affinis, *Aythya*, 36, 39-41, 56, 60, **116**.
 Agassiz, Louis, 83, 198.
Agelaius phœniceus, 19, 22, 23, 46, 49-51, 55, 60, 241, **242**, 248, 250, 278, 287, 354.
agilis, *Geothlypis*, 48, 57, 59, **350**.
 Agowamme, 71.
Agyrtria viridissima, 58, **222**.
Aix sponsa, 36, 37, 40, 43, 45, 46, 49, 53, 56, 61, 79, 83, 106, **111**.
Alauda arvensis, 58, **232**.
alba, Guara, 131.
albeola, *Charitonetta*, 36, 40, 57, 60, **119**.
 Alberta, 204.
albicollis, *Zonotrichia*, 16, 56, 60, 276, **277**.
albifrons, *Nyctale*, 201.
Alca torda, 90.
alcyon, *Ceryle*, 18, 38, 55, 194, **209**.
 Alder, black, 47, 351, 388.
 Alder Flycatcher, 56, 59, 61, **230**.
 Aldrich, Pertia W., 92.
 'Alert,' ship, 77.
 Alewife, 44, 91, 191, 194.
 Alewife Brook, 42-45, 47, 49, 83, 102, 106, 107, 112, 133, 138, 139, 145, 156-158, 202, 241, 371, 393.
 Alice's Thrush, **386**.
aliceæ bicknelli, *Hyalocichla*, 18, 57, **386**, 387.
 Hyalocichla, 18, 57, **386**, 387.
 Alle alle, 57, 61, **90**.
 Allen, F. H., 252.
 Allen, Glover M., 3, 92, 114, 136, 141, 204, 205, 259, 266, 290, 295, 332, 334, 352, 353, 356.
 Allen, J. A., 69, 135, 142, 151, 186, 194, 222, 232, 233, 241, 242, 250, 251, 262, 264, 272, 273, 296, 306, 321, 325, 332, 356.
 Almy, Mrs. Charles, 82, 173.
alnorum, *Empidonax traillii*, 56, 59, 61, **230**.
alpestris, *Otocoris*, 56, **233**, 266, 267, 360.
 praticola, *Otocoris*, 58, **234**, 266.
alpina sakhalina, *Pelidna*, 57, **160**.
 Alstead, N. H., 185.
alternifolia, *Cornus*, 314.
 American Bittern, 32, 45, 46, 49-52, 55, 61, 80, **132**.
 Coot, 36, 37, 40, 41, 46, 49-51, 56, 60, 115, 117, 150-**152**.
 Crossbill, 16, 35, 54, 59, **256-259**.

- American Crow, 14, 15, 20-22, 25, 28, 33, 35, 54, 59, 61, 67, 136, 189, 198, 206, **237**, 238.
 Golden-eye, 30, 36, 40, 41, 56, 60, 61, 101, **118**, 120, 191.
 Goldfinch, 12, 15, 22, 28, 35, 54, 59, **261**, 263, 264.
 Goshawk, 57, **185**.
 Hawk Owl, 58, **207**.
 Long-eared Owl, 54, **195**.
 Merganser, 36, 40, 57, 60, **100**.
 Ornithologists' Union Committee, 283.
 Osprey, 56, **194**.
 Philosophical Society, 76.
 Pipit, 33, 57, **360**.
 Redstart, 15, 21, 25, 28, 29, 55, 61, 67, 337, **359**.
 Robin, 13, 15, 21, 25, 26, 28, 29, 35, 54, 60, 63, 64, 67, 141, 184, 203, 219, 241, 248-250, 308, 365, 385, 387, **390**.
 Rough-legged Hawk, 56, **189**.
 Scoter, 40, 57, 60, 121, **123**, 125.
 Sparrow Hawk, 16, 54, 189, 192, **193**.
 Widgeon, **107**.
 Woodcock, 23, 45, 48, 53, 55, 61, **154**, 260, 380, 391.
americana, *Aythya*, 41, 57, **113**, 117.
Certhia familiaris, 4, 15, 28, 35, 56, 59, 61, **372**, 376.
Clangula clangula, 30, 36, 40, 41, 56, 60, 61, 101, **118**, 120, 191.
Fulica, 36, 37, 40, 41, 46, 49-51, 56, 60, 115, 117, 150-152.
Grus, 58, **142**.
Mareca, 57, **107**.
Oidemia, 40, 57, 60, 121, **123**, 125.
Spiza, 58, 59, 62, 64, **295**.
usneæ, *Compsothlypis*, 17, 56, **328**.
americanus, *Coccyzus*, 12, 14, 22, 28, 35, 55, 184, **207**, 208.
Corvus, 22.
Merganser, 36, 40, 57, 60, **100**.
Tympanuchus, 58, **171**.
 Ames, J. B., 263.
Anmodramus caudacutus, 26, 33, 55, 61, **272**, 275, 276.
henslowii, 55, **271**.
nelsoni, 32, 57, **274**-276.
subvirgatus, 32, 57, 274, **275**.
Ampelis cedrorum, 13, 15, 25, 27, 28, 35, 54, 60, **307**, 385.
garrulus, 58, **306**.
Anas boschas, 41, 57, **103**.
obscura, 36, 39-41, 43, 45, 46, 49, 51, 52, 55, 60, 61, 79, 83, 103, **104**-106, 109, 111, 114, 121, 126, 136.
obscura rubripes, 41, 56, **104**-106, 121.
anatium, *Falco peregrinus*, 58, 63, 70, **191**, 192.
 Andover, 373.
Andromeda ligustrina, 47, 351.
Anthus pensilvanicus, 33, 57, **360**.
Antrostomus vociferus, 16, 55, **218**.
 Appleton Street, 111, 164, 203, 339.
aquatica, *Zizania*, 146.
Aquila chrysaëtos, 58, 63, **190**.
Archibuteo lagopus sancti-johannis, 56, **189**.
 Arctic Horned Owl, 5, 58, **203**.
 Owl, **206**.
 Three-toed Woodpecker, 58, **212**.
arctica, *Fratereula*, 90.
 Strix, 205.
arcticus, *Bubo*, 204, 205.
virginianus, 204, 205.
Picoides, 58, **212**.
Ardea canadensis, 142.
herodias, 32, 56, **134**, 139, 142.
Ardetta exilis, 45, 46, 49, 50, 55, 59, 61, **133**.
arenaria, *Calidris*, 57, **161**.
argentatus, *Larus*, 15, 30, 41, 56, 61, 89, 93-96.
 Arlington, 8-10, 42, 51, 53, 83, 85, 91, 106, 134, 139, 148, 155-157, 167, 170, 171, 173, 175, 184, 187, 194, 197, 200, 201, 203, 207-213, 216, 218, 220, 222-226, 228-231, 236, 238, 240, 245-247, 252, 255, 257, 264, 265, 267, 270, 271, 276-279, 281, 282, 284, 286, 287, 289, 291, 293, 294, 302, 303, 307, 313-315, 318, 322-324, 327, 328, 330, 332, 333, 335, 337, 339-344, 346-350, 353, 354, 356, 360, 363, 365, 367-369, 376, 378, 379, 382-384, 386, 388, 391-393, 395.
 Arlington Heights, 9, 53, 155, 156, 171, 179, 184, 195, 199, 226, 236, 252, 281, 290, 297, 316, 322, 334, 342, 354-356, 359, 365, 367, 376, 396.
Arquatella maritima, 57, 61, **158**.
 Arsenal Brook, 227.
 Artificial, 49-50.
arvensis, *Alauda*, 58, **232**.
 Ash Street, 295.
Asio accipitrinus, 56, **196**.
magellanicus wapacuthu, 205.
wilsonianus, 54, **195**.
asio, *Megascops*, 14, 15, 35, 37, 53, 54, 59, **201**, 217, 394.
Astragalinus tristis, 12, 15, 22, 28, 35, 54, 59, **261**, 263, 264.
ater, *Molothrus*, 12, 16, 22, 28, 55, **240**, 243, 250.
 Atkinson, Frank P., 184, 384.
atricapillus, *Accipiter*, 57, **185**.
Parus, 15, 21, 25, 28, 35, 53, 54, 59, 200, 210, 211, 315, 319, 320, 337, 348, 373, 376, **377**, 379-381, 383.
 Auburndale, 128, 228.
 Audubon, J. J., 76, 121, 290, 291, 306, 323, 398.
auduboni, *Dendroica*, 58, **334**.
 Audubon's Warbler, 58, **334**.
 Auk, Little, 61, **90**.
 Razor-billed, 90.
aura, *Cathartes*, 6, 57, **181**.
auratus, *Colaptes*, 23.
luteus, *Colaptes*, 12, 14, 15, 19, 20, 23, 25, 28, 35, 53, 54, 60, 67, 193, 210, **217**, 238.
auritus, *Colymbus*, 56, 60, **86**.
aurocapillus, *Seiurus*, 17, 21, 23, 55, 320, **348**.
 Autumn migrants, 56, 57.
autumnalis, *Plegadis*, 57, **131**.
 Avon Hill Street, 291.

- Aythya affinis*, 36, 39-41, 56, 60, **116**.
americana, 41, 57, **113**, 117.
collaris, 40, 57, 115, **117**, 152.
marila, 117.
vallisneria, 41, 57, **114**, 117, 118, 152.
Azalea, white, 47.
- BACK BAY, 29, 31, 70, 121, 173, 273.
 Back Bay Basin, 9, **29-31**, 85, 89, 92, 93, 95-99, 101, 118, 119, 123, 124, 128, 162, 164, 167-169, 266, 268.
 district, 220.
 Fens, 168.
- Bald Eagle, 58, 95, **190**.
 Baldpate, 57, **107**.
 Baldwin Street, 29.
 Ball's Hill, 175, 380.
 baltimore, *Icterus*, 22.
 Baltimore Oriole, 12, 14, 22, 25, 26, 28, 29, 55, 63, 67, **246**, 293, 329.
 Bangs, E. A., 92, 93, 147, 148, 193, 199, 207, 259, 340, 341.
 Bangs, Outram, 3, 92, 93, 147, 148, 161, 166, 167, 174, 191, 193, 199, 207, 259, 340, 341.
 Bank Swallow, 55, 61, 301, **304**.
 Barberry, 10, 34, 170, 208, 281, 284, 295, 307, 346, 347, 365.
baritus, *Quiscalus*, 250, 251.
 Barker brothers, 37.
 Barn Swallow, 12, 17, 26, 28, 55, 61, **302**.
 Barred Owl, 54, **197**, 397.
 Barrows, W. B., 65.
 Bartlett, William B., 380.
 Barton, Benjamin S., 74.
Bartramia longicauda, 16, 32, 56, 61, 163, **166**.
 Bartramian Sandpiper, 16, 32, 56, 61, 163, **166**.
bartramius, *Totanus*, 163.
 Batchelder, C. F., 3, 4, 202, 210, 213, 216, 225, 243, 268, 292, 327, 328, 338, 340, 352, 353, 366, 367, 372, 373, 376, 393.
- Bay of Fundy, 94.
 Bay-breast, **338**.
 Bay-breasted Warbler, 17, 56, **338**.
 Bay-winged Bunting, **267**.
 Beacon Hill, 238.
 Street, Boston, 238, 268.
 Somerville, 23.
- Bean, Frank E., 297.
 Bear Hill, 9.
 Beard, E. L., 396.
 Beaver Brook, 51-53, 112, 147, 294, 372, 391.
 Beaver Brook Reservation, **52**, 53, 167, 227, 231, 379, 393.
 Street, Waltham, 312.
- Bedford, 101, 175, 186, 290, 380.
 Beech, 45, 50, 214, 216.
 Beech Island, **50**, 321, 361, 370, 371.
 Belknap, J., 142.
 Belmont, 8-10, 42, 51, 53, 66, 88, 106, 108, 131-133, 136, 147, 148, 155-157, 166, 168, 170, 171, 173, 179, 184, 186-188, 192, 193, 197, 198, 200, 201, 203, 210, 211, 216, 218, 220, 224, 225, 228-230, 233, 234, 236, 238-240, 242, 244-247, 252, 255, 257, 259, 267, 269, 270, 276, 278-280, 282, 284-286, 288, 291, 293, 294, 297, 302-305, 307, 313-315, 317, 318, 323-326, 328, 332, 333, 335-337, 341, 343-349, 353, 354, 357, 358, 360, 361, 363, 364, 366-370, 375, 378, 379, 382, 383, 386, 387, 392, 393, 395-397.
- Belted Kingfisher, 18, 38, 55, 194, **209**.
 Bendire, Charles E., 199, 200.
 Bent, A. C., 122.
 Bergen, T. B., 223.
 Berkeley Street, 206, 249.
 Berkshire County, 231, 234.
bernicla, *Branta*, 126.
 Berry, partridge, 24.
 Bethune, John, 226.
 Beverly, 212, 251.
bieknelli, *Hylocichla aliciae*, 18, 57, **386**, 387.
 Bicknell's Thrush, 18, 57, **386**, 387.
bicolor, *Iridoprocne*, 13, 17, 26, 28, 55, 61, 66-68, 299, **303**, 308.
 Quercus, 24.
- biflora*, *Impatiens*, 47, 222, 351.
 Bigelow, Henry Bryant, 113, 114.
 Billerica, 388.
Birch, gray, 24, 46-48, 155, 260, 324, 325, 327, 328, 335, 350, 376, 380.
 yellow, 45, 46.
- Bird, Grass, **158**, **160**.
 Planting, **364**.
 Quaw, **138**.
- Bird's Pond, 9, 106, 112.
 Bishop, L. B., 242.
- Bittern, 32, 45, 46, 49, 50-52, 61, 80, **132**.
 American, 32, 45, 46, 49-52, 55, 61, 80, **132**.
 Least, 45, 46, 49, 50, 55, 59, 61, **133**.
- Black alder, 47, 351, 388.
 and White Creeper, **318**.
 Warbler, 17, 55, **318**.
 Yellow Warbler, 52, **335**.
 Duck, 36, 39-41, 43, 45, 46, 49, 51, 52, 55, 60, 61, 79, 83, 103, **104-106**, 109, 111, 114, 121, 126, 136.
 Red-legged, 41, 56, **104-106**, 121.
- oak, 24.
 Oriole, 250.
 Point [Me.], 72, 73, 150, 175.
 Rail, 58, **148**.
 Skimmer, 79.
 Vulture, **397**.
- Black-back, 41, **95**.
 Black-backed Gull, **93**, **95**.
 Great, 41, 56, 93, **95**.
 Three-toed Woodpecker, **212**.
- Black-bill, **208**.
 Black-billed Cuckoo, 12, 14, 22, 28, 55, 184, **208**.
 Blackbird, Crow, 241, **248**, **249**, 251.
 Red-winged, 19, 22, 23, 46, 49-51, 55, 60, 241, **242**, 248, 250, 278, 287, 354.
 Rusty, 4, 56, **247**.
 Skunk, **239**.
 Swamp, **242**.

- Blackbird, Yellow-headed, 58, **241**.
blackburnie, *Dendroica*, 17, 56, 59, 61, **340**.
Blackburnian, **340**.
Blackburnian Warbler, 17, 56, 59, 61, **340**.
Blackcap, 358.
 Wilson's, 52, **357**, 358.
Black-capped Chickadee, **377**, 380.
 Titmouse, 21, **377**, 380.
Black-crowned Night Heron, 12, 16, 20, 32, 38,
 45, 46, 48, 49, 56, 133, 137, **138**, 202.
Black-poll, **339**.
Black-poll Warbler, 17, 52, 56, 328, **339**, 351.
Black's Nook, 36, 45.
Black-throated Blue Warbler, 17, 56, **332**.
 Bunting, 59, 62, 64, **295**.
 Green Warbler, 17, 55, 320, 337, **341**.
Blake, Francis G., 97, 398.
Blake, Maurice C., 97, 398.
Block Island, **50**.
Blue beech, 24.
 Heron, Great, 32, 56, **134**, 139, 142.
 Little, 57, **135**, 139.
 Hills, 336, 341.
 Jay, 12, 15, 28, 35, 54, 59, **235**, 248, 364.
 Yellow-back, **328**.
 Yellow-backed Warbler, **328**.
Blueberry, high, 23, 34, 47, 289, 294, 337, 365.
Blue-bill, **116**.
Bluebird, 13, 18, 26, 28, 35, 53, 55, 61, 64, 66-68,
 80, 203, 256, 278, 304, 315, 367, **395**.
Blue-gray Gnatcatcher, 292, 362.
Blue-headed Vireo, 4, 14, 15, 56, 59, 61, **315**.
Blue-winged Teal, 36, 37, 40, 46, 49, 50, 56,
 61, **109**.
 Warbler, 58, **322**.
 Yellow Warbler, **322**.
Boat-tailed Grackle, 58, **250**.
Bobolink, 12, 16, 19, 33, 51, 55, 61, **239**, 241, 243-
 245.
Bob-white, 35, 50, 54, 59-61, **170**, 172-174, 180.
Bohemian Waxwing, 58, **306**.
Bolles, Frank, 53, 112, 113, 193, 200, 336, 389.
Bolton, 306.
Bonaparte's Gull, 57, **97**.
Bonasa umbellus, 35, 46, 50, 54, 59, 61, **171**-174.
borealis, *Buteo*, 35, 56, 61, **186**.
 harlani, *Buteo*, 187.
 Lanius, 15, 56, **309**.
 Numenius, 163.
 Nuttallornis, 35, 53, 56, 59, 62, **226**.
boschas, *Anas*, 41, 57, **103**.
Boston, 29, 65, 69, 71-73, 76, 77, 81, 91, 97, 173,
 220, 238, 250, 252, 255, 265, 268, 274,
 302, 310.
Boston Common, 69, 210, 238, 303, 310, 395.
 Custom House, 369.
 Harbor, 70-72, 101, 121, 201.
 Society of Natural History, 81, 85, 130,
 131, 136, 148, 190.
Botaurus lentiginosus, 32, 45, 46, 49-52, 55, 61,
 80, **132**.
Bowditch, Harold, 3, 86, 88, 89, 113-116, 152.
Bowles, J. H., 144, 148.
Boylston Hall, 301.
 Street, 91.
Boynton, E. M., 72.
brachidaetyla, *Geothlypis trichas*, 18, 46, 49,
 51, 55, **354**.
brachyrhynchos, *Corvus*, 14, 15, 20-22, 25, 28,
 33, 35, 54, 59, 61, 67, 136, 189, 198, 206,
 237, 238.
Brackett, Foster H., 144, 148, 322.
Bradbury, John, 74.
Brant, 126.
Branta, bernicla, 126.
 canadensis, 16, 36, 40, 41, 56, 126, **127**,
 129.
Brattle Square, 206.
 Street, 11, 19, 20, 113, 137, 140, 179, 202,
 203, 209, 210, 222, 229, 235, 249, 252,
 265, 296, 314, 330, 338, 360, 368, 378,
 396.
brevirostris, *Troglodytes*, 370.
Brewer, Thomas M., 7, 26, 65, 136, 138, **199**,
 214, 262, 273, 291, 295, 296, 306, 321,
 350, 373.
breweri, *Spizella*, 58, **280**.
Brewer's Sparrow, 58, **280**.
Brewster, William, collection of, 86, 88, 90, 93,
 98, 99, 107, 109-111, 116, 117, 120,
 122, 124, 125, 129, 133, 134, 140, 141,
 150, 160, 164-166, 176, 179, 182, 184,
 185, 188, 196-199, 203, 206, 207, 214,
 215, 222, 224, 227, 229-232, 236, 257-
 259, 261, 264, 268-270, 272-276, 280,
 283, 285, 310, 312, 315, 316, 322, 324-
 326, 328-332, 334, 335, 338-340, 342,
 344, 345, 349, 350, 352-358, 360, 362,
 364, 370, 378-380, 386.
Brewster, William, garden, **11**-28.
Brewster Street, 171.
brewsterii, *Acanthis*, 58, **260**.
 Ægiothus flavirostris, 260.
Brewster's Linnet, 58, **260**.
Brickyard Swamp, **48**-49, 109, 112, 125, 132,
 133, 145, 151, 152, 155, 156, 168, 179,
 230, 231, 248, 275, 371.
Bridge, F. W., 212.
Bridgewater, 122.
Brighton, 160, 163, 166, 190.
Brighton Marshes, 32, 128, 159.
 Street, 91.
Bristol County, 194.
British Museum, 94, 158, 274.
Broadway, 28, 29, 156, 170.
Broad-winged Hawk, 56, **188**.
Brock, H. H., 144.
Bronzed Grackle, 12, 14, 22, 25, 55, 67, 241, 248,
 249, 251.
Brookline, 29, 83, 135, 140, 157, 213, 215, 264,
 273, 290, 310, 324, 356, 374, 380.
Brookline Bridge, 29, 31, 273.
 High School, 92.
 Street, 25-28, 255, 343.
Brooks Pond, 121.
Brown, C. F., 251.
Brown Creeper, 4, 15, 28, 35, 56, 59, 61, **372**,
 376.
Brown, Edward Wyeth, 131.
Brown farm, 301.

- Brown, James, 75, 80.
 Brown Thrasher, 18, 55, 184, **364**.
 Thrush, **364**.
 Brown, Wilnot W., 207, 232, 267, 269, 270, 310, 352.
 Browne, F. C., 131.
 Browne, G. E., 162.
 Brown-tailed moth, 35.
 Brünnich's Murre, 57, 61, **89**.
 Bryant, Henry, 7, 82, 330.
 Bryant, Walter E., 305.
 Bubo arcticus, 204, 205.
 subarcticus, 204, 205.
 virginianus, 46, 58, 61, 63, **202**, 204.
 arcticus, 204, 205.
 occidentalis, 204, 205.
 pacificus, 204, 205.
 pallascens, 204, 205.
 subarcticus, 5, 58, **203**.
 buccinator, Olor, 130.
 Buckingham Street, 215, 292.
 Buckthorn, 34, 391.
 Buffle-head, 36, 40, 57, 60, **119**.
 Bunting, Bay-winged, **267**.
 Black-throated, 59, 62, 64, **295**.
 Cow, **240**.
 Indigo, 12, 17, 22, 26, 28, 55, 61, 66, **294**.
 Painted, 58, **295**.
 Snow, 33, 59, 60, **265**.
 Burgomaster, **92**.
 Burnett, Mrs. Edward, 249.
 Burroughs, Julian, 309.
 Butcher-bird, **309**.
 Buteo borealis, 35, 56, 61, **186**.
 harlani, 187.
 cooperi, 58, **186**.
 lineatus, 20, 35, 54, 59, 186, **187**.
 platypterus, 56, **188**.
 Butorides virescens, 12, 32, 46, 48, 49, 55, 61, 79, **136**, 139.
 Butter-ball, **119**.
 Butter-bill, **123**.
 Coot, **123**.
 Button-bush, 49, 51, 87, 247, 250.
 Buttonwood, 246.
 Buttrick, Steadman, 175.
 Buzzard, Turkey, **181**.
 Buzzards Bay, 239.
- CABOT, Edward C., 45, 81, **83-84**, 106, 148, 150, 202, 370, 371.
 Cabot, Eliza, 173.
 Cabot, J. Elliot, 7, 42-45, 81, **82-84**, 105, 106, 132, 133, 150, 173, 202, 296, 336, 370, 371.
 Cabot, Samuel, 7, 43, 45, **81-83**, 102, 106, 107, 115, 138, 148, 150, 154, 156, 176, 177, 198, 202, 250, 324, 336, 370, 371.
 cærulea, Florida, 57, **135**, 139.
 Polioptila, 292, 362.
 cærulescens, Dendroica, 17, 56, **332**.
 Calcaurus lapponicus, 58, **266**.
 calendula, Regulus, 18, 57, 373, 376, **382**.
 Calidris arenaria, 57, **161**.
 California Hawk, **186**.
 Cambridge, 8-11, 20, 29, 42, 65-67, 69, 71-73, 75, 80, 81, 83, 84, 90, 91, 96, 109, 110, 125, 127, 131, 138, 140, 141, 144, 146, 148, 154, 155, 156, 163-166, 168-170, 173, 176, 177, 179, 182-184, 187, 189, 192-194, 197, 198, 200, 202, 203, 206, 208-211, 213-218, 220-225, 228-233, 235, 237-239, 241-244, 246-250, 252, 254, 255, 257-259, 261, 262, 264, 265, 268, 269, 271, 274-279, 281, 282, 284-286, 288, 290-296, 298, 299, 301-304, 306, 309-312, 314-317, 321, 323-325, 327-335, 337-342, 344, 345, 349, 352, 353, 355, 356, 360, 361, 363, 366-368, 372-374, 377, 378, 381-386, 388-393, 395, 396.
 Old, 11-25, 27, 119, 171, 200.
 West, 148, 295.
 Cambridge Almshouse, 138.
 Cemetery, 33, 88, 90, 155, 186, 225, 227, 229, 235, 243, 246, 277, 285, 372.
 Common, 170, 192, 302.
 Gas-House, 153, 206.
 High School, 156, 223.
 Hospital, 100, 128, 169, 177, 233, 235, 269, 305.
 Nook, 36, 43, 49, 83, 114, 125, 126, 161, 169, 202.
 Region, 8-10, **11**.
 reservoir, 19, 146, 287.
 Street, 29, 156.
 Water Board, 44, 97.
 Cambridgeport, 11, **25-29**, 31, 33, 65, 156, 158, 159, 169, 171, 223, 233, 238, 254, 255, 266, 268-270, 272-275, 277, 279, 284, 294, 299, 314, 343, 367, 377.
 Marshes, 32, 61, 135, 167, 196, 274, 275.
 Camden, N. J., 121.
 Campistolimus labradorius, 58, **121**.
 Canachites canadensis canace, 172.
 Canada Flycatcher, **358**.
 Fly-catching Warbler, 358, 359.
 Goose, 16, 36, 40, 41, 56, 126, **127**, 129.
 Jay, 58, **236**.
 Nuthatch, **375**.
 canadensis, Ardea, 142.
 Branta, 16, 36, 40, 41, 56, 126, **127**, 129.
 canace, Canachites, 172.
 Grus, 58, **142**.
 Perisoreus, 58, **236**.
 Sitta, 18, 35, 56, 59, 61, 200, 373, **375**.
 Wilsonia, 18, 52, 57, 59, 61, **358**.
 Canadian Warbler, 18, 52, 57, 59, 61, **358**.
 Zone, 59.
 Canton, 148, 224, 374.
 Canvas-back, 41, 57, **114**, 117, 118, 152.
 caparoch, Surnia ulula, 58, **297**.
 Cape Ann, 162, 173.
 Cod, 96, 131, 162, 173, 191, 245.
 May Warbler, 56, **329**.
 Captains Island, 28.
 Cardinal, 6, 18, 58, 59, 61, 62, **290**.
 Cardinal Grosbeak, 59, **290**.

- Cardinalis cardinalis*, 6, 18, 58, 59, 61, 62, **290**.
Carduelis carduelis, 58, **264**.
Carex stricta, 243, 287.
 Carlisle, 157, 171, 178, 380.
 Carolina Dove, 178, **179**.
 Rail, 32, 45, 46, 49, 50, 145, **146-149**.
 Wren, 58, 59, 61, 292, 362, **366**.
 carolina, Porzana, 32, 45, 46, 49, 50, 55, 145, **146-149**.
 carolinensis, Galeoscoptes, 4, 13, 15, 21, 28, 51, 55, 184, **363**, 364.
 leucotis, Sciurus, 20, 50.
 Mimus, 21.
 Nettion, 36, 37, 40, 41, 49, 50, 56, 61, 103, **108**.
 Pandion haliaëtus, 56, **194**.
 Sitta, 15, 19, 25, 28, 35, 54, 59, 200, 319, 373, **374**, 376.
 carolinus, Euphagus, 4, 56, **247**.
Carpodacus purpureus, 12, 14, 21, 27, 28, 35, 54, 60, 61, 66, **254**, 256, 271.
 Carter, C. M., 179, 192.
 Casco Bay, Me., 70, 73.
 Cassin, John, 204.
 castanea, Dendroica, 17, 56, **338**.
 Castle Hill, 379.
 Cat Owl, **202**.
 Catbird, 4, 13, 15, 21, 28, 51, 55, 184, **363**, 364.
Catharista urubu, **397**.
Cathartes aura, 6, 57, **181**.
 Cattail flag, 42, 45, 49-51, 132, 133, 137, 145, 147, 149, 151, 243, 250, 287, 354, 355, 370, 372.
 caudacutus, Ammodramus, 26, 33, 55, 61, **272**, 275, 276.
 Causeway, 296.
 Cedar, red, 10, 27, 31, 35, 52, 60, 140, 170, 171, 197, 226, 227, 237, 248, 254, 279, 281, 284, 286, 289, 294, 307, 309, 315, 324, 326, 330, 333, 335, 343, 346, 347, 358, 362, 363, 365, 373, 379, 381, 388, 391, 392, 396.
 Cedar Waxwing, 13, 15, 25, 27, 28, 35, 54, 60, **307**, 385.
 Cedarbird, 25, 27, 28, 35, 60, **307**, 385.
 cedrorum, Ampelis, 13, 15, 25, 27, 28, 35, 54, 60, **307**, 385.
 celata, Helminthophila, 17, 57, 59, **324**, 332.
Certhia familiaris americana, 4, 15, 28, 35, 56, 59, 61, **372**, 376.
Ceryle alcyon, 18, 38, 55, 194, **209**.
 Chadbourne, Arthur P., 3, 168, 179, 202, 213, 215, 260, 334, 373.
Chætura pelagica, 12, 14, 25, 28, 29, 55, 61, **220**, 301.
 Chamberlain, Montague, 74.
 Chapman, Everett S., 107.
 Chapman, Frank M., 8, 251, 325, 332.
Charadrius dominicus, 163.
Charitonetta albeola, 36, 40, 57, 60, **119**.
 Charles River, 8, 9, 27, 29-33, 70, 82, 88, 90-92, 96, 97, 100, 106, 116, 119, 121, 125, 126, 129, 134, 137, 140, 153, 154, 157-161, 163, 164, 167, 169, 194, 206, 209, 223, 235, 238, 240, 265, 269, 273, 305, 360, 376, 398.
 Charles River Basin, 118.
 Marshes, 26, **30-33**, 137, 147, 148, 159, 160, 169, 186, 187, 246, 272, 273, 276, 277, 285, 372.
 Charlestown, 65, 71, 295.
 Chat, Yellow-breasted, 55, 59, 61, 64, **355**.
 Chatham, 144.
 Chebec, **232**.
 Checkerberry, 359.
Chelone glabra, 48.
 Chelsea, 71.
 Chelsea Beach, 122.
Chen hyperborea, 58, **126**.
 nivalis, 58, **126**.
 Chenery, Charles E., 37, 124.
 Cherry, rum, 24, 47, 385, 392.
 Cherrybird, **307**.
 Chester, Conn., 342.
 Chestnut, 34, 214-216, 248, 297, 348.
 Chestnut Hill, 313.
 Chestnut-side, **336**.
 Chestnut-sided Warbler, 17, 55, **336**.
 Chewink, **289**.
 Chickadee, 15, 21, 25, 28, 35, 53, 54, 59, 200, 210, 211, 315, 319, 320, 337, 348, 373, 376, **377**, 379-381, 383.
 Black-capped, **377**, 380.
 Hudsonian, 58, **378**.
 Chicken, Mother Carey's, **98**.
 Chimney Swallow, **220**.
 Swift, 12, 14, 25, 28, 29, 55, 61, **220**, 301.
 China Ring-neck, 174.
 Chipmunk, 20.
 Chipping Sparrow, 12, 15, 22, 25, 27, 28, 55, 63, 234, 240, 241, 278, **279-281**, 337.
 Chippy, 27, 63, **279**, 280, 337.
Chordeiles virginianus, 16, 56, **219**, 221.
chrysaëtos, Aquila, 58, 63, **190**.
Chrysomitris tristis, 22.
 chrysoptera, Helminthophila, 53, 55, **322**.
chrysorrhoa, Euproctis, 35.
cinerea melodia, Melospiza, 12, 17, 22, 27, 28, 38, 49, 55, 60, 61, 66, 256, 268-270, 278, 281, **284**, 286.
Circus hudsonius, 18, 52, 56, **182**.
ciris, Cyanospiza, 58, **295**.
Cistothorus stellaris, 45, 52, 55, **370**.
Clangula clangula americana, 30, 36, 40, 41, 56, 60, 61, 101, **118**, 120, 191.
 Clark, Alvin, 27.
 Clark, Clarence H., 379.
 Clark, H. L., 306.
 Clark, James T., 91.
 Clark, W. S., 306.
 Clark, —, 353.
 Clematis, 47.
 Clematis Brook, 317.
 Clethra, 47, 351.
 Cliff Swallow, 28, 55, 66-68, **300**.
 Clover, white, 168.
 clypeata, Spatula, 57, **110**.
 Cobbler, 32.

- Coccyzus americanus*, 12, 14, 22, 28, 35, 55, 184, 207, 208.
erythrophthalmus, 12, 14, 22, 28, 55, 184, 208.
 Cogswell, Edward R., 291.
 Cohasset, 136.
Colaptes auratus, 23.
 luteus, 12, 14, 15, 19, 20, 23, 25, 28, 35, 53, 54, 60, 67, 193, 210, 217, 238.
Colinus virginianus, 35, 50, 54, 59-61, 170, 172-174, 180.
collaris, *Aythya*, 40, 57, 115, 117, 152.
colubris, *Trochilus*, 12, 14, 22, 28, 55, 221.
columbarius, *Falco*, 56, 192, 193.
columbianus, *Olor*, 57, 129.
Colymbus auritus, 56, 60, 86.
 holbœllii, 57, 85.
 Comey, Arthur C., 167, 288, 289, 291, 356.
 Common Murre, 90.
 Tern, 57, 98.
Comptothlypis americana usneæ, 17, 56, 328.
 Concord, 99, 111, 117, 118, 131, 149, 157, 162, 175, 177, 179, 182, 186, 191, 210, 218, 228, 230, 234, 272, 297, 300, 322, 328, 337, 340, 341, 359, 367, 376, 380, 385, 386, 388, 389, 396.
 Concord Avenue, 19, 43-45, 47, 49, 131, 171, 215, 302, 305.
 River, 101, 128, 137, 149, 175, 380.
 Valley, 9.
 Turnpike, 11, 43, 44, 51, 301.
connectens, *Junco hyemalis*, 283.
 Connecticut Warbler, 48, 57, 59, 350.
Contopus virens, 12, 16, 22, 25, 28, 55, 228, 320.
 Convalescent Home, 193, 379, 389.
 Coolidge, Joseph, farm, 235, 285.
 Coolidge, Philip T., 86.
 Cooper Tavern, 83.
cooperi, *Buteo*, 58, 186.
cooperii, *Accipiter*, 55, 184.
 Cooper's Hawk, 55, 184.
 Henhawk, 58, 186.
 Coot, 36, 41, 46, 50, 51, 115, 117, 123, 150-152.
 American, 36, 37, 40, 41, 46, 49-51, 56, 60, 115, 117, 150-152.
 Butter-bill, 123.
 Gray, 124.
 White-winged, 123.
 Copeland, Manton, 291.
corax principalis, *Corvus*, 58, 237.
 Cormorant, Double-crested, 57, 99.
 Cornel, panicked, 231.
Cornus alternifolia, 314.
cornata, *Dendroica*, 17, 52, 56, 325, 333, 340, 345.
Corvus americanus, 22.
 brachyrhynchus, 14, 15, 20-22, 25, 28, 33, 35, 54, 59, 61, 67, 136, 189, 198, 206, 237, 238.
 corax principalis, 58, 237.
 ossifragus, 58, 238.
 Cory, C. B., 200.
Coturniculus passerinus, 296.
 savannarum passerinus, 55, 270, 296.
 Coues, Elliott, 204.
 Coues, W. P., 168.
 Coville, F. V., 76.
 Cow Bunting, 240.
 Cowbird, 12, 16, 22, 28, 55, 240, 243, 250.
 Craigie Bridge, 9, 153, 154.
 Street, 249.
 Crane, Little Brown, 58, 142.
 Sandhill, 58, 142.
 Whooping, 58, 142.
 Creeper, 35, 372, 376.
 Black and White, 318.
 Brown, 4, 15, 28, 35, 56, 59, 61, 372, 376
 Pine, 28, 343.
 Tree, 372.
 Crescent Beach, 251.
 Crested Flycatcher, 16, 53, 55, 63, 224.
 Great, 224.
 crinitus, *Myiarchus*, 16, 53, 55, 63, 224.
 cristata, *Cyanocitta*, 12, 15, 28, 35, 54, 59, 235, 248, 364.
 Crosby, Walter, 199.
 Crossbill, American, 16, 35, 54, 59, 256-259.
 Red, 256-258.
 White-winged, 35, 56, 59, 257, 259.
 Crow, 20, 21, 25, 28, 33, 35, 59, 61, 67, 136, 189, 198, 206, 237, 238.
 American, 14, 15, 20-22, 25, 28, 33, 35, 54, 59, 61, 67, 136, 189, 198, 206, 237, 238.
 Fish, 58, 238.
 Crow Blackbird, 241, 248, 249, 251.
 Crown Hill, 155, 178.
 Crymophilus fulvicarius, 57, 153, 154.
 Cryptoglaux acadica, 56, 59, 61, 199, 200.
 tengmalmi richardsoni, 58, 199.
 Cuckoo, Black-billed, 12, 14, 22, 28, 55, 184, 208.
 Yellow-billed, 12, 14, 22, 28, 35, 55, 184, 207, 208.
 cucullatus, *Lophodytes*, 36, 40, 41, 57, 60, 61, 102.
 Cullen, John, 216, 298.
 Cummings, Morton E., 122.
 Cunningham, George, 141.
 cupido, *Tympanuchus*, 58, 172.
 Curlew, Eskimo, 163.
 curvirostra minor, *Loxia*, 16, 35, 54, 59, 256-259.
 Cushing estate, 198.
 cyanea, *Cyanospiza*, 12, 17, 22, 26, 28, 55, 61, 66, 294.
 Cyanocitta cristata, 12, 15, 28, 35, 54, 59, 235, 248, 364.
 Cyanospiza ciris, 58, 295.
 cyanea, 12, 17, 22, 26, 28, 55, 61, 66, 294.
 DAFILA acuta, 41, 49, 57, 110.
 Dana Hill, 28, 29, 156, 223, 277.
 Dana, Richard H., 77.
 Dana Street, 29.
 Dandelion, fall, 20.
 Danielson, Alfred L., 109, 147, 148, 206.
 Davenport, Homer, 174.
 Davis, E. M., 155, 331.
 Deadly nightshade, 47, 208, 351, 387.

- Deane, Charles, 71, 127, 129, 130, 142, 172, 175, 176, 180, 230, 237.
 Deane, George C., 96, 216, 361.
 Deane, Ruthven, 19, 36, 40, 49, 89, 114, 151, 178, 201, 206, 322, 323, 327, 329, 330, 356.
 Deane, Walter, 3, 4, 18, 28, 71, 90, 96, 97, 100, 101, 114, 115, 117, 120, 125, 170, 171, 189, 216, 224, 225, 229, 231, 262, 263, 291, 309, 316, 325, 326, 339, 352, 353, 388, 389.
 Dedham, 162, 322.
 West, 91, 199.
 Deer Island, 201.
 deglandi, Oidemia, 36, 39, 40, 57, 60, 116, 121, 123.
 Delaware River, 121.
 delicata, Gallinago, 19, 32, 38, 46, 49, 51, 56, 60, 156, 159, 196.
 Dendroica aestiva, 13, 15, 21, 25, 28, 29, 49, 51, 55, 63, 240, 325, 331, 337, 354.
 auduboni, 58, 334.
 blackburniae, 17, 56, 59, 61, 340.
 caerulescens, 17, 56, 332.
 castanea, 17, 56, 338.
 coronata, 17, 52, 56, 325, 333, 340, 345.
 discolor, 55, 346.
 maculosa, 17, 52, 56, 335.
 palmarum, 57, 344.
 hypochrysea, 17, 56, 334, 345.
 pensylvanica, 17, 55, 336.
 pina, 21.
 striata, 17, 52, 56, 328, 339, 351.
 tigrina, 56, 329.
 vigorsii, 21, 23, 27, 28, 35, 55, 61, 343.
 virens, 17, 55, 320, 337, 341.
 Denton, Shelley W., 250, 324, 325, 331, 332.
 Denton, Sherman F., 380.
 Dickcissel, 58, 59, 62, 64, 295.
 dilophus, Phalaacrocorax, 57, 99.
 Dipper, 36, 87.
 discolor, Dendroica, 55, 346.
 discors, Querquedula, 36, 37, 40, 46, 49, 50, 56, 61, 109.
 dispar, Porthetria, 35.
 Dolichonyx oryzivorus, 12, 16, 19, 33, 51, 55, 61, 239, 241, 243-245.
 domesticus, Passer, 7, 14, 15, 25, 26, 29, 35, 58, 60, 61, 65-69, 183, 192, 197, 202, 211, 217, 229, 232, 255, 261, 278, 279, 284, 299, 300, 303, 304, 310, 314, 368, 390, 395, 396.
 dominicus, Charadrius, 163.
 Dorchester, 71, 212, 322.
 Dorchester Neck, 29.
 Double-crested Cormorant, 57, 99.
 Doubtful species, 58.
 Dove, Carolina, 178, 179.
 Mourning, 57, 178, 179.
 Dovekie, 57, 61, 90.
 Downy Woodpecker, 15, 22, 28, 35, 53, 54, 59, 210, 211, 238, 319, 320, 373, 376.
 Dryobates pubescens medianus, 15, 22, 28, 35, 53, 54, 59, 210, 211, 238, 319, 320, 373, 376.
 Dryobates villosus, 15, 56, 59, 63, 210, 211, 398.
 leucomelas, 398.
 Duck, 37, 38, 46, 51, 60, 70.
 Black, 36, 39-41, 43, 45, 46, 49, 51, 52, 55, 60, 61, 79, 83, 103, 104-106, 109, 111, 114, 121, 126, 136.
 Gray, 110, 121.
 Greater Scaup, 117.
 Labrador, 58, 121.
 Lesser Scaup, 36, 39-41, 56, 60, 116.
 Pied, 121.
 Red-legged Black, 41, 56, 104-106, 121.
 Ring-necked, 40, 57, 115, 117, 152.
 Ruddy, 36, 37, 39-41, 56, 60, 116, 119, 120, 123, 125.
 Wood, 36, 37, 40, 43, 45, 46, 49, 53, 56, 61, 79, 83, 106, 111.
 Duck Hawk, 58, 63, 70, 191, 192.
 Ducker, 150.
 Dumb-bird, 36, 39, 40, 119, 125.
 Dupont, 28.
 Durand, E., 74-76, 78-80.
 Dutcher, William, 97, 122.
 Duxburrow, 70.
 Duxbury, 70, 344.
 Dwight, J., Jr., 94, 226, 274.
 EAGLE, Bald, 58, 95, 190.
 Golden, 58, 63, 190.
 Eames, Thomas H., 110, 111.
 Early writers and ornithologists, 69-84.
 East Lexington, 10, 51, 134, 149, 150, 152, 157, 179, 184, 185, 192, 200, 218, 220, 278, 313, 317, 323, 330, 341, 358, 360, 383, 388.
 Watertown, 116, 166, 214, 327, 330, 368.
 Eastham, 242.
 Easthampton, 306.
 Eastman, H. D., 156.
 Eastport, Me., 94.
 Eave Swallow, 28, 66, 300.
 Ectopistes migratorius, 57, 61, 176, 180.
 Eider, King, 57, 122.
 Elanoides forficatus, 6.
 Elder, 47.
 elegans, Rallus, 143, 149.
 Eliot, Charles, 52.
 Elliot, D. G., 325, 332.
 Ellisville, 144.
 Elmwood, 140, 179, 180, 225, 229, 235, 237, 249, 252, 301, 343, 363, 377.
 Emerson, Guy, 322.
 Emmons, E., 142.
 Empidonax flaviventris, 16, 56, 229.
 minimus, 12, 14, 28, 55, 61, 66, 232, 320.
 traillii, 231.
 alorum, 56, 59, 61, 230.
 English Snipe, 156.
 Sparrow, 65, 192, 197, 202, 211, 229, 232, 255, 261, 278, 303, 304, 368, 390.
 enucleator leucura, Pinnicola, 15, 35, 56, 59, 60, 252, 259, 262.
 Episcopal Theological School, 113.
 Ereunetes pusillus, 32, 57, 160, 161, 169.

- Erismatura jamaicensis*, 36, 37, 39-41, 56, 60, 116, 119, 120, 123, **125**.
erythrocephalus, *Melanerpes*, 58, **214**.
erythrogaster, *Hirundo*, 12, 17, 26, 28, 53, 61, **302**.
erythromelas, *Piranga*, 17, 55, **297**, 320.
erythrophthalinus, *Coccyzus*, 12, 14, 22, 28, 55, 184, **208**.
Pipilo, 17, 55, **289**.
 Eskimo Curlew, 163.
 Essex County, 96, 388.
 River, 267.
 Road, 130.
Euphagus carolinus, 4, 56, **247**.
Euproctis chrysorrhœa, 35.
 European Goldfinch, 58, **264**.
 Kestrel, 189.
 Siskin, 18, 58, **264**.
 Eustis, Henry L., 222.
 Eustis, Richard S., 3, 88, 89, 95, 114, 115, 126, 132, 156, 168, 179, 189, 216, 243, 249, 281, 305, 330, 372, 389.
 Evening Grosbeak, 58, **251**.
excubitorides, *Lanius ludovicianus*, 311.
exilipes, *Acanthis hornemannii*, 58, 59, **258-260**.
exilis, *Ardetta*, 45, 46, 49, 50, 55, 59, 61, **133**.
 Expunged species, 58.
 Extinct species, 58.
- FAIRHAVEN** Bay, 99, 389.
Falco columbarius, 56, **192**, 193.
 peregrinus anatum, 58, 63, 70, **191**, 192.
 sparverius, 16, 54, 189, 192, **193**.
 tinnunculus, 189.
 Fall dandelion, 20.
 Falmouth, 149.
 Falmouth, Me., 144.
familiaris americana, *Certhia*, 4, 15, 28, 35, 56, 59, 61, **372**, 376.
 Faneuil Station, 126.
 Farley, John A., 141, 143, 231, 239, 376.
 Farm Pond, 99.
 Faxon, Walter, 3, 4, 79, 85-87, 102, 104, 106, 114, 116, 127, 131, 132, 134, 143, 146, 149-153, 167, 168, 171, 175, 179, 185, 191, 192, 194, 196, 197, 203, 207-210, 212, 213, 216, 218-221, 223-226, 228, 231, 239, 240, 242, 245, 246, 248, 253, 258-260, 264, 265, 269, 270, 274, 276-278, 280, 281, 285, 288, 289, 291, 293, 295, 297-300, 302, 304, 306, 309, 312-318, 322, 323, 327, 329-336, 339-341, 344-346, 348-350, 353, 355-361, 363-365, 367, 369, 371, 372, 376, 378, 379, 381-384, 386-389, 393, 395.
 Fayerweather Street, 246, 249, 291, 368.
 Fayette Street, 28, 29, 156.
 Fern, royal, 337.
 Fernald, M. L., 266.
Fiber zibethicus, 37, 43, 49, 50.
 Field Plover, **166**.
 Sparrow, 55, **280**.
 Finch, Acadian Sharp-tailed, 32, **275**.
 Grass, **267**.
 Lincoln's, **285**.
 Nelson's Sharp-tailed, 32, **274**.
 Pine, **262**.
 Purple, 12, 14, 21, 27, 28, 35, 54, 60, 61, 66, **254**, 256, 271.
 Savanna, 271.
 Sharp-tailed, 26, 32, 61, **272**.
 Fish Crow, 58, **238**.
 Hawk, **194**.
 Fitchburg Railroad, 43, 44, 47, 48, 50, 156, 179.
 Flag, cattail, 42, 45, 49-51, 132, 133, 137, 145, 147, 149, 151, 243, 250, 287, 354, 355, 370-372.
 Flagg estate, 216.
 Flagg, Wilson, 7.
flavifrons, *Vireo*, 13, 15, 21, 25, 28, 55, **314**, 316, 320.
flavipes, *Totanus*, 32, 49, 57, 61, 161, **163**.
flavirostris, *Egiothus*, 260.
 brewsterii, *Egiothus*, 260.
flaviventris, *Empidonax*, 16, 56, **229**.
 Flicker, 19, 20, 25, 28, 35, 53, 60, 67, 193, 210, **217**, 238.
 Northern, 12, 14, 15, 19, 20, 23, 25, 28, 35, 53, 54, 60, 67, 193, 210, **217**, 238.
 Flood, O. D., 141.
Florida carulea, 57, **135**, 139.
Florida Gallinule, 45, 46, 49, 51, 55, 59, 61, 148, **150**.
 Flycatcher, Alder, 56, 59, 61, **250**.
 Canada, **358**.
 Crested, 16, 53, 55, 63, **224**.
 Great Crested, **224**.
 Least, 12, 14, 28, 55, 61, 66, **232**, 320.
 Olive-sided, 35, 53, 56, 59, 62, **226**.
 Traill's, **230**, 231.
 Yellow-bellied, 16, 56, **229**.
 Fly-catching Warbler, Canada, 358, 359.
 Follen Street, 206, 249.
 Forbush, E. H., 239, 300.
 Ford, Howard S., 373, 374.
 Forehand, Samuel, 174.
 Forest Street, Waltham, 312.
forficatus, *Elanoides*, 6.
 Fort Vancouver, 76.
 Fox Sparrow, 17, 56, 60, 278, **288**.
 Framingham, 99, 199, 310, 344, 356.
 Francis, N. A., 157, 375.
 Franklin, Arthur, 86.
Fratercula arctica, 90.
 Frazar, George B., 86, 121, 122, 124, 126.
 Frazar, M. Abbott, 91, 121, 126, 153, 154, 168, 188, 193, 194, 198, 201, 203, 215, 227, 247, 248, 294, 309, 334, 361.
 Freeman, George, 85.
 Freeman, Warren E., 85, 109, 110, 121, 126.
 French, Daniel C., 19, 99, 213, 328, 374.
 Fresh Pond, 9-11, 15, 19, 20, **36-45**, 50, 72, 82, 83, 86-91, 93-98, 100-121, 123-128, 131-134, 138-140, 146, 148, 150-152, 159-164, 167, 169, 179, 189-194, 202, 209, 214, 216, 219, 223, 225, 231, 233, 243, 245, 264, 266, 275, 293, 301, 302, 304, 308, 312, 315, 323, 327, 333, 336, 338, 340, 345, 360, 382, 383.

- Fresh Pond Hotel, 112, 154, 185, 191, 225, 327, 361.
 Lane, 267, 271, 391.
 Marshes, 42-50, 61, 82, 108, 132, 133, 137, 143, 148, 150-152, 160, 164, 189, 196, 248, 274, 299, 360, 367, 370, 371, 393.
 Park, 361.
 Parkway, 20.
 Region, 137, 151, 351, 371.
 Swamps, 32, 42-50, 60, 83, 102, 106, 108, 109, 111, 113, 133, 136, 137, 140, 145-147, 152, 159, 165, 167, 170, 171, 186, 187, 195, 196, 200, 207, 208, 230, 240, 242, 243, 247, 250, 255, 261, 262, 268, 276-278, 281, 284, 285, 287, 293, 303, 310, 311, 317, 318, 331, 335, 337, 348, 349, 351, 353-355, 357, 360, 365, 369, 381, 383-385, 387, 392.
- Frisbie Place, 263.
 Frog Hawk, 182.
 Frost, —, 40, 106.
Fulica americana, 36, 37, 40, 41, 46, 49-51, 56, 60, 115, 117, 150-152.
fulvicarius, *Crymophilus*, 57, 153, 154.
 Fuller, T. O., 369.
Fundulus, sp., 32.
fuscescens, *Hylociella*, 18, 21, 55, 384.
Turdus, 21.
- GALBULA**, *Icterus*, 12, 14, 22, 25, 26, 28, 29, 55, 63, 67, 246, 293, 329.
 Gale, sweet, 49, 51, 87.
galeata, *Gallinula*, 45, 46, 49, 51, 55, 59, 61, 148, 150.
Galeoscoptes carolinensis, 4, 13, 15, 21, 28, 51, 55, 184, 363, 364.
Gallinago delicata, 19, 32, 38, 46, 49, 51, 56, 60, 156, 159, 196.
Gallinula galeata, 45, 46, 49, 51, 55, 59, 61, 148, 150.
Gallinule, Florida, 45, 46, 49, 51, 55, 59, 61, 148, 150.
gallopavo silvestris, *Meleagris*, 58, 61, 175.
 Garden of William Brewster, 11-18.
 Garden Street, 292.
 Gardner, James E., Jr., 155.
garrulus, *Ampelis*, 58, 306.
Gavia imber, 36, 40, 41, 56, 60, 88.
lumme, 57, 89.
georgiana, *Melospiza*, 17, 22, 38, 46, 49-51, 55, 60, 286, 354.
Geothlypis agilis, 48, 57, 59, 350.
philadelphia, 17, 57, 352.
trichas, 354.
brachidactyla, 18, 46, 49, 51, 55, 354.
 Gilbert, R. A., 118, 201, 202, 316.
 Gilman, Arthur S., 206, 293, 331, 365.
gilvus, *Virco*, 13, 15, 21, 25, 27-29, 55, 313, 315.
glabra, *Chelone*, 48.
Glacialis, 42, 44, 49-50, 93, 102, 106, 108, 110, 111, 120, 152, 162, 164, 203, 249, 268, 347, 370, 371.
glaucescens, *Larus*, 94.
 Glaucous Gull, 41, 57, 92.
glaucus, *Larus*, 41, 57, 92.
 Glossy Ibis, 57, 131.
 Gloucester, 397.
 Gnatcatcher, Blue-gray, 292, 362.
 Godwit, Hudsonian, 57, 161.
 Golden Eagle, 58, 63, 190.
 Oriole, 246.
 Plover, 163.
 Robin, 246.
 Warbler, 331.
 Golden-crest, 381.
 Golden-crested Kinglet, 380, 383.
 Wren, 381.
 Golden-crowned Kinglet, 15, 28, 35, 56, 59, 200, 373, 376, 380, 381, 383.
 Thrush, 21, 348.
 Golden-eye, 40, 191.
 American, 30, 36, 40, 41, 56, 60, 61, 101, 118, 120, 191.
 Goldenrod, seashore, 32.
 Golden-wing, 322.
 Golden-winged Warbler, 53, 55, 322.
 Woodpecker, 23, 217.
 Goldfinch, 22, 28, 35, 59, 261, 263, 264.
 American, 12, 15, 22, 28, 35, 54, 59, 261, 263, 264.
 European, 58, 264.
 Goodale, Charles L., 141, 148.
 Goodale, J. L., 359.
 Goosander, 36, 40, 60, 100.
 Goose, Canada, 16, 36, 40, 41, 56, 126, 127, 129.
 Gray, 126.
 Greater Snow, 58, 126.
 Lesser Snow, 58, 126.
 Snow, 73, 127.
 Wild, 128.
 Gore estate, 166, 270.
 Goshawk, 185.
 American, 57, 185.
 Grackle, Boat-tailed, 58, 250.
 Bronzed, 12, 14, 22, 25, 55, 67, 241, 248, 249, 251.
 Purple, 22, 55, 248, 251.
gramineus, *Poocetes*, 55, 234, 267, 270, 281.
 Granary Burying Ground, 252.
 Grass Bird, 153, 160.
 Finch, 267.
 Grasshopper Sparrow, 55, 270, 296.
 Gray, Asa, 79.
 Gray, John C., 330.
 Gray birch, 24, 46-48, 155, 260, 324, 325, 327, 328, 335, 350, 376, 380.
 Coot, 124.
 Duck, 110, 121.
 Goose, 126.
 Gull, 96.
 squirrel, 20, 50.
 Gray-cheeked Thrush, 18, 57, 386, 387.
 Gray's Woods, 19, 20, 155, 193, 224, 235, 264, 271, 344, 374.
 Great Black-backed Gull, 41, 56, 93, 95.
 Blue Heron, 32, 56, 134, 139, 142.

- Great Crested Flycatcher, **224**.
 Gray Owl, 58, **197**.
 Horned Owl, 46, 58, 61, 63, **202**, 204.
 Meadow, **51**, 87, 99, 104, 109, 111, 113,
 133, 134, 137, 140, 143, 145, 147, 151,
 152, 157, 159, 160, 162, 164, 169, 220,
 231, 242, 250, 394.
 Slave Lake, 199.
 South Pond, 95.
 Swamp, 48.
- Greater Redpoll, 56, 59, **259**, 260.
 Scaup Duck, 117.
 Snow Goose, 58, **126**.
 Yellow-legs, 32, 56, **162**.
- Grebe, Holboell's, 57, **85**.
 Horned, 56, 60, **86**.
 Pied-billed, 36, 40, 41, 49-51, 56, 60, **87**.
- Green Heron, 12, 32, 46, 48, 49, 55, 61, 79, **136**,
 139.
- Greenbrier, 24, 334.
- Greene, S. Eliot, 380.
- Green-winged Teal, 36, 37, 40, 41, 49, 50, 56,
 61, 103, **108**.
- Greenwood, Emery C., 362.
- Grosbeak, Cardinal, 59, **290**.
 Evening, 58, **251**.
 Pine, 15, 35, 56, 59, 60, **252**, 259, 262.
 Rose-breasted, 15, 22, 25, 28, 55, 61, 67,
293.
- Ground juniper, 281, 354.
 pine, 24.
 Robin, **289**.
 Sparrow, **284**.
- Grouse, Prairie, 173.
 Ruffed, 35, 46, 50, 54, 59, 61, **171-174**.
 Spruce, 172.
- Grus americana, 58, **142**.
 canadensis, 58, **142**.
 mexicana, 58, **142**.
- Guara alba, 131.
- Guiraca ludoviciana, 22.
- Gull, Black-backed, 93, **95**.
 Bonaparte's, 57, **97**.
 Glaucous, 41, 57, **92**.
 Gray, **96**.
 Great Black-backed, 41, 56, 93, **95**.
 Herring, 15, 30, 41, 56, 61, 89, 93-96.
 Iceland, 41, 57, **93**.
 Kumlien's, 94.
 Sea, **96**.
 White-winged, **93**.
- guttata pallasii, *Hylocichla*, 18, 57, 59, 61, **388**.
 Gypsy moth, 35.
 Gyrfalcon, 186.
- HADLEY, William P., 3, 99, 111, 113, 199, 236,
 290, 353, 356, 367.
 hæmastica, *Limosa*, 57, **161**.
 Hairy Woodpecker, 15, 56, 59, 63, **210**, 211, 398.
Haliaëtus leucocephalus, 58, 95, **190**.
haliaëtus carolinensis, Pandion, 56, **194**.
 Hamilton, 374.
 Hancock Street, 29.
 Hangbird, **246**.
 Hanover, 374.
- Harding, —, 188.
 Hardy, John H., Jr., 3, 85, 100, 101, 104, 109,
 114, 116, 119, 123, 124, 128, 159, 160,
 162, 164, 169, 397.
 Hardy's Pond, 10, 106, 108, 109, 125 (see also
 Sherman's Pond).
Harelda hyemalis, 36, 39, 40, 57, 60, **120**.
harlani, *Buteo borealis*, 187.
 Harvard, 188.
 Harvard Botanic Garden, 75, 76, 165, 213, 254,
 276, 285, 290-293, 295, 353, 356, 389.
 Bridge, 32, 33, 89, 92, 97, 99, 118, 168,
 169, 233, 268.
 College, 7, 29, 76, 81-83, 102, 106, 107,
 138, 154, 156, 176, 210, 229, 263, 324,
 336, 385.
 College Delta, 154.
 College Grounds, 176, 183, 202, 284,
 293, 301, 302, 311, 314, 377.
 College Yard, 192, 253, 263, 291.
 Divinity School, 23.
 Natural History Society, 7, 139.
 Observatory, 206, 238, 258.
 Square, 10, 28, 31, 65, 170, 284, 293,
 301, 302, 314.
 Street, 28, 29, 170.
 Union, 266.
 University, 75, 77.
 UniversityBoathouse, 168.
- Hathaway, Alton H., 107, 145, 146, 150, 168,
 191.
- Hawk, American Rough-legged, 56, **189**.
 Sparrow, 16, 54, 189, 192, **193**.
 Broad-winged, 56, **188**.
 California, **186**.
 Cooper's, 55, **184**.
 Duck, 58, 63, 70, **191**, 192.
 Fish, **194**.
 Frog, **182**.
 Hen, **186**, **187**.
 Marsh, 18, 52, 56, **182**.
 Pigeon, 56, **192**, 193.
 Red-shouldered, 20, 35, 54, 59, 186, **187**.
 Red-tailed, 35, 56, 61, **186**.
 Rough-legged, **189**.
 Sharp-shinned, 18, 56, **183**, 321.
 Sparrow, 189, 192, **193**.
- Hawk Owl, **207**.
 American, 58, **207**.
- Hazard, Joseph Peace, 65.
- Hearne, Samuel, 205.
- Heath Hen, 58, **172**.
- Heathcocke, 172.
- Helminthophila celata*, 17, 57, 59, **324**, 332.
chrysoptera, 53, 55, **322**.
peregrina, 58, **327**.
pinus, 58, **322**.
rubricapilla, 17, 53, 55, 320, 321, **323**,
 326, 336.
- Helmitheros vermivorus*, 58, **321**.
Helodromas solitarius, 56, 60, **165**.
- Hemlock, 34, 236, 252, 288, 323, 328, 329, 333,
 335, 338, 340, 342, 343, 357, 373, 381,
 388.
- Hemlock Grove, 140, 191, 192.

- Hemlock Point, 88, 89, 94, 101, 114, 191.
 Hen Hawk, **166, 187.**
 Hen, Heath, 58, **172.**
 Prairie, 58, **171.**
 Water, 148.
 Henhawk, Cooper's, 58, **186.**
 Henniker, N. H., 251.
 Henshaw, Henry W., 3, 25-28, 127, 135, 158,
 178, 196, 255, 263, 272-275, 285, 299,
 306, 323-325, 338, 343, 350, 352, 355,
 371, 387.
 Henshaw, Samuel, 4, 291.
 henslowii, Ammodramus, 55, **271.**
 Henslow's Sparrow, 55, **271.**
 Hepatica, 33.
 Herd's-grass, 271.
 Hermit, **388.**
 Hermit Thrush, 18, 57, 59, 61, **388.**
 herodias, Ardea, 32, 56, **134, 139, 142.**
 Heron, Black-crowned Night, 12, 16, 20, 32, 38,
 45, 46, 48, 49, 56, 133, 137, **138, 202.**
 Blue, 139.
 Great Blue, 32, 56, **134, 139, 142.**
 Green, 12, 32, 46, 48, 49, 55, 61, 79, **136,**
 139.
 Little Blue, 57, **135, 139.**
 Night, 20, 32, 38, 45, 46, 48, 49, 137, **138,**
 202.
 Yellow-crowned Night, 57, **141.**
 Herring Gull, 15, 30, 41, 56, 61, 89, 93-96.
 Hesperiphona vespertina, 58, **251.**
 Hickory, shell-bark, 19.
 hiemalis, Olbiorchilus, 57, **369.**
 Higginson, T. W., 305.
 High blueberry, 23, 34, 47, 289, 294, 337, 365.
 Highland Street, 19, 242, 244, 287, 396.
 Hill, A. C., 143.
 Hilliard and Brown, 74.
 Hilliard, Gray and Co., 74.
 Hillery, Thomas, 291.
 Hill's Crossing, 108, 156, 166, 186, 239, 244, 269.
 Hirundo erythrogaster, 12, 17, 26, 28, 55, 61,
 302.
 hirundo, Sterna, 57, **98.**
 Hitchcock, E., 142.
 Hitchcock, F. H., 356.
 Hittinger farm, 157, 174.
 Hittinger, Frederick, 37.
 Hittinger, Jacob, 37, 43, 157.
 Hoary Redpoll, 58, 59, **258-260.**
 Hobbs Brook, 9, 10.
 Hobbs Brook Reservoir, 9, 10, 188, 203, 270.
 Hoffmann, Ralph, 3, 155, 168, 185, 218, 232,
 252, 253, 264, 267, 276, 279, 285, 335,
 341, 344, 357, 361, 363, 364, 366, 382,
 383, 387, 389.
 holboëllii, Acanthis linaria, 58, 59, **259, 260.**
 Colymbus, 57, **85.**
 Holboëll's Grebe, 57, **85.**
 Holboëll's Redpoll, 58, 59, **259, 260.**
 Hooded Merganser, 36, 40, 41, 57, 60, 61, **102.**
 Warbler, 58, **356.**
 Hop hornbeam, 24.
 Horned Grebe, 56, 60, **86.**
 Horned Lark, 56, **233, 266, 267, 360.**
 Prairie, 58, **234, 266.**
 Owl, Arctic, 5, 58, **203.**
 Great, 46, 58, 61, 63, **202, 201.**
 hornemannii exilipes, Acanthis, 58, 59, **258-260.**
 Hosmer, F. H., 181.
 House Sparrow, 7, 14, 15, 25, 26, 29, 35, 58, 60,
 61, **65-69, 183, 192, 197, 202, 211, 217,**
 229, 232, **255, 261, 278, 279, 284, 299,**
 300, 303, 304, 310, 314, 368, 390, 395,
 396.
 Wren, 13, 18, 21, 26-28, 35, 53, 55, 61,
 66-68, 256, 304, **367, 395.**
 Howe, R. H., Jr., 114, 136, 141, 143, 204, 205,
 259, 266, 290, 295, 334, 356, 398.
 Hubbard, Gardiner G., 218.
 Hubbard Park, 218, 235, 238, 316.
 Hubbel and Co., 48.
 Huckleberry, 27.
 Huckleberry-bird, **230.**
 Hudson, 397.
 Hudson Bay Titmouse, 380.
 Hudsonian Chickadee, 58, **378.**
 Godwit, 57, **161.**
 Titmouse, **378.**
 hudsonicus loquax, Sciurus, 20, 50.
 Parus, 58, **378.**
 hudsonius, Circus, 18, 52, 56, **182.**
 Hummer, **221.**
 Hummingbird, 28, **221.**
 Linné's, 58, **222.**
 Ruby-throated, 12, 14, 22, 28, 55, **221.**
 Huron Avenue, 111, 164, 271, 302, 396.
 Hutchings, J., 251.
 'hutchinsii,' Larus, 93.
 Hyde Park, 212.
 hyemalis connectens, Junco, 283.
 Harella, 36, 39, 40, 57, 60, **120.**
 Junco, 16, 28, 35, 56, 59, 60, 268, 278,
 281, 282, 284, 288.
 shufeldti, Junco, 58, 283.
 Hyla, Pickering's, 247.
 Hylocichla alicia, 18, 57, **386, 387.**
 bicknelli, 18, 57, **386, 387.**
 fuscescens, 18, 21, 55, **384.**
 guttata pallasii, 18, 57, 59, 61, **388.**
 mustelina, 18, 55, **383.**
 ustulata swainsoni, 18, 57, **387.**
 hyperborea, Chen, 58, **126.**
 nivalis, Chen, 58, **126.**
 hypochrysea, Dendroica palmarum, 17, 56, 334,
 345.
 Ibis, Glossy, 57, **131.**
 White, 131.
 Iceland Gull, 41, 57, **93.**
 Icteria virens, 55, 59, 61, 64, **355.**
 Icterus baltimore, 22.
 galbula, 12, 14, 22, 25, 26, 28, 29, 55, 63,
 67, **246, 293, 329.**
 spurius, 55, 59, 62, **245.**
 iliaca, Passerella, 17, 56, 60, 278, **288.**
 imber, Gavia, 36, 40, 41, 56, 60, **88.**

- Impatiens biflora*, 47, 222, 351.
 Independence, Mo., 76.
Indigo Bunting, 12, 17, 22, 26, 28, 55, 61, 66, **294**.
Indigo-bird, 22, 26, 28, 61, 66, **294**.
 Inman Street, 29.
 Introduced species, 58.
Ipswich, 71, 95, 96, 99, 105, 121, 136, 144, 162, 194, 234, 266-268, 270, 379.
Ipswich Bay, 130.
 River, 267.
 Sparrow, 58, 61, **268**, 270.
Iridoprocne bicolor, 13, 17, 26, 28, 55, 61, 66-68, 299, **303**, 308.
Ivy, poison, 24, 387, 388.
- JAMAICA** Plain, 290.
 Pond, 116, 117.
jamaicensis, *Erismanura*, 36, 37, 39-41, 56, 60, 116, 119, 120, 123, **125**.
 Porzana, 58, **148**.
Jarvis Field, 170.
Java Sparrow, 264.
Jay, Blue, 12, 15, 28, 35, 54, 59, **235**, 248, 361.
 Canada, 58, **236**.
Jeffries, W. A., 3, 8, 99, 101, 119, 123, 128, 158, 162, 268, 355.
Jillson, S., 306.
Job, H. K., 215, 289.
Josselyn, John, 69, 72-73, 126, 142, 150, 172, 175, 237.
Junco hyemalis, 16, 28, 35, 56, 59, 60, 268, 278, **281**, 282, 284, 288.
 connectens, 283.
 shufeldti, 58, 283.
 moutanus, 58, **282**.
 oregonus shufeldti, 283.
 oregonus, 283.
Junco, 28, 35, 59, 60, 268, 278, **281**, 282, 284, 288.
 Montana, 58, **282**.
 Oregon, 283.
 Shufeldt's, 58, 283.
 Slate-colored, 16, 28, 35, 56, 59, 60, 268, 278, **281**, 282, 284, 288.
Juniper, Ground, 281, 354.
 Virginia, 26, 195, 226, 230, 235, 236, 252, 255, 288, 308, 342, 346.
Juniperus virginiana, 27.
- KENDALL**, Blanche, 216.
Kennard, Frederic H., 3, 135, 213, 374.
Kennedy, W. S., 236.
Kestrel, European, 189.
Kicker, 149.
Kidder, A. Vincent, 216, 330, 368.
Killdeer, 57, **167**.
Killdeer Plover, 168.
King Eider, 57, **122**.
 Rail, **143**, 149.
Kingbird, 12, 16, 28, 55, 63, **223**.
Kingfisher, 38, 194, **299**.
 Belted, 18, 38, 55, 194, **209**.
Kinglet, 35, 200, 373, 376.
 Golden-crested, 380, 382, 383.
 Golden-crowned, 15, 28, 35, 56, 59, 200, 373, 376, 380, **381**, 383.
- Kinglet*, Ruby-crowned, 18, 57, 373, 376, **382**.
Kingsley Park, 271, 361.
Kirkland Street, 23, 170, 202, 222, 225, 291, 292, 339, 353, 366, 373, 377, 384.
Kite, Swallow-tailed, 6.
Kneeland, Samuel, 190.
Kumlien, L., 94.
kumlieni, *Larus*, 94.
Kumlien's Gull, 94.
Kwa-bird, 133, 202.
- LABRADOR** Duck, 58, **121**.
labradorius, *Camptolaimus*, 58, **121**.
lagopus sancti-johannis, *Archibuteo*, 56, **189**.
Lake Superior, 83.
 Umbagog, 97, 196, 256, 257.
 View Avenue, 271, 312, 395.
Lamb, Charles R., 3, 86, 110, 111, 116, 144, 159, 214, 215, 222, 235, 268, 277, 287, 295, 323, 344, 347, 353, 355, 356, 361, 370, 372.
Lamb, George N., 213.
Lancaster, 188.
Lane, G. M., 263.
Lanius borealis, 15, 56, **309**.
 ludovicianus, 311.
 excubitorides, 311.
 migrans, 58, **310**.
Lannaret, 70.
Lapland Longspur, 58, **266**.
lapponicus, *Calcarius*, 58, **266**.
Lark, **244**.
 Horned, 56, **233**, 266, 267, 360.
 Prairie Horned, 58, **234**, 266.
Larus argentatus, 15, 30, 41, 56, 61, 89, 93-96.
 glaucescens, 94.
 glaucus, 41, 57, **92**.
 'hutchesii', 93.
 kumlieni, 94.
 leucopterus, 41, 57, **93**.
 marinus, 41, 56, 93, **95**.
 philadelphia, 57, **97**.
latifolia, *Spiræa salicifolia*, var., 151.
Laurel, 283.
Leach's Petrel, 57, 61, **98**.
Least Bittern, 45, 46, 49, 50, 55, 59, 61, **133**.
 Flycatcher, 12, 14, 28, 55, 61, 66, **232**, 320.
 Pewee, **232**.
 Sandpiper, 32, 56, **159**-161, 169.
LeConte, John L., 83.
Lee, —, 216.
Lee house, 202.
lentiginosus, *Botaurus*, 32, 45, 46, 49-52, 55, 61, 80, **132**.
Leominster, 141.
Lesser Redpoll, 28, **258**.
 Scaup, 36, 40, 41, 60, **116**.
 Duck, 36, 39-41, 56, 60, **116**.
 Snow Goose, 58, **126**.
 Yellow-legs, 61, **163**.
leucocephalus, *Haliaeetus*, 58, 95, **190**.
leucomelas, *Dryobates villosus*, 398.
leucophrys, *Zonotrichia*, 56, **276**, 326.
leucoptera, *Loxia*, 35, 56, 59, **257**, 259.

- leucopterus, Larus, 41, 57, **93**.
 leucorhoa, Oceanodroma, 57, 61, **98**.
 leucotis, Sciurus carolinensis, 20, 50.
 leucura, Ponicola enucleator, 15, 35, 56, 59, 60,
 252, 259, 262.
 Lexington, 8-10, 51, 91, 128, 135, 155, 171, 181,
 185, 187, 190, 200, 211, 216, 218, 221,
 222, 225, 232, 236, 245, 247, 260, 270,
 280, 281, 286, 293, 294, 298, 299, 302-
 304, 309, 313, 315, 318, 322, 324, 332,
 335, 336, 339, 341, 343, 346, 348, 356,
 365, 367, 378, 383, 392, 395.
 East, 10, 51, 134, 149, 150, 152, 157,
 179, 184, 185, 192, 200, 218, 220, 278,
 313, 317, 323, 330, 341, 358, 360, 383,
 388.
 North, 341, 359.
 Lexington Branch Railroad, 139.
 Common, 299.
 Street, 378.
 ligustrina, Andromeda, 47, 351.
 Limosa hœmastica, 57, **161**.
 linaria, Acanthis, 28, 35, 56, 59, **258-261**, 263.
 holbcelli, Acanthis, 58, 59, **259**, 260.
 rostrata, Acanthis, 56, 59, **259**, 260.
 Lincoln, 8, 179, 188, 203, 210, 270, 272, 297, 359,
 367, 385.
 lincolnii, Melospiza, 17, 56, 59, 271, **285**.
 Lincoln's Finch, **285**.
 Sparrow, 17, 56, 59, 271, **285**.
 lineatus, Buteo, 20, 35, 54, 59, 186, **187**.
 Linnæan Street, 202, 206.
 Linné's Hummingbird, 58, **222**.
 Linnet, Brewster's, 58, **260**.
 Mountain, 260.
 Pine, 59, 61, 260, **262**.
 Linsley, J. H., 251.
 Litchfield, Conn., 251.
 Little Auk, 61, **90**.
 Blue Heron, 57, **135**, 139.
 Little, Brown and Co., 74.
 Little Brown Crane, 58, **142**.
 Pond, 9, 102 (see also Smith's Pond).
 River, 42-44, 50, 83, 102, 106, 112, 132,
 139, 140, 157, 160, 165, 171, 196, 241,
 250, 274, 321, 356, 361, 371, 393.
 Liverpool, Eng., 65, 78.
 lobatus, Phalaropus, 57, **153**.
 Locust, 346.
 Loggerhead Shrike, **310**.
 lonvia, Uria, 57, 61, **89**.
 Long Island, 122, 173.
 Long-billed Marsh Wren, 45, 46, 49, 50, 55, 60,
 61, **371**.
 Long-eared Owl, **195**.
 American, 54, **195**.
 Longfellow, Henry W., 32, 338, 363.
 Longfellow Marshes, 32, 157, 159, 160, 166-169,
 196, 206, 243, 269, 275, 299, 304.
 Park, 291.
 longicauda, Bartramia, 16, 32, 56, 61, 163, **166**.
 Longspur, Lapland, 58, **266**.
 Longwood, 140.
 Loon, 36, 40, 41, 56, 60, **88**.
 Red-throated, 57, **89**.
 Lophodytes cucullatus, 36, 40, 41, 57, 60, 61, **102**.
 loquax, Sciurus hudsonicus, 20, 50.
 Loring Hill, 9.
 Lothrop, Oliver Ames, 3, 87, 88, 93, 101-104,
 106, 107, 109, 110, 120, 124, 127, 137,
 146, 162, 168, 171, 192, 196, 224, 326,
 361.
 Loud, —, 242.
 Louisiana Water-Thrush, **398**.
 Lowell, James Russell, 7, 31, 32, 140, 180, 218,
 225, 249, 296, 300, 302, 305.
 Lower Canadian Zone, 59.
 Mystic Pond, 9, 85, 86, 98, 106, 116, 122,
 124, 147, 152, 194, 269, 277, 285-287,
 329, 330, 345.
 Loxia curvirostra minor, 16, 35, 54, 59, **256-259**.
 leucoptera, 35, 56, 59, **257**, 259.
 Lubec, Me., 379.
 Lucius, sp., 44.
 ludoviciana, Guiraca, 22.
 Zamelodia, 15, 22, 25, 28, 55, 61, 67, **293**.
 ludovicianus excubitorides, Lanius, 311.
 Lanius, 311.
 migrans, Lanius, 58, **310**.
 Thyrothorus, 58, 59, 61, 292, 362, **366**.
 lumme, Gavia, 57, **89**.
 lunifrons, Petrochelidon, 28, 55, 66-68, **300**.
 luteus, Colaptes auratus, 12, 14, 15, 19, 20, 23,
 25, 28, 35, 53, 54, 60, 67, 193, 210, **217**,
 238.
 Lyman estate, 106, 178, 218, 297, 316, 323, 375.
 Lynn, 64, 71, 72, 105, 129, 142, 176, 180, 190,
 199, 212, 237, 251, 306, 310, 330, 355,
 373.
 Lynn Marshes, 104.
 Lynnfield, 190, 231.
 lysteri, Tamias striatus, 20.
 MACKAY, G. H., 181.
 macroura, Zenaidura, 57, 178, **179**.
 macularia, Actitis, 33, 38, 55, 60, **167**.
 maculata, Actodromas, 32, 57, **158**.
 maculosa, Dendroica, 17, 52, 56, **335**.
 Magazine, 28.
 Magazine Street, 28.
 magellanicus wapacuthu, Asio, 205.
 magna, Sturnella, 19, 20, 54, 60, 61, 184, **244**,
 278.
 Magnolia Warbler, 17, 52, 56, **335**.
 Mahoney, Thomas, **88**.
 Main Street, 28, 265.
 major, Megaquiscalus, 58, **250**.
 Malden, 141, 199, 212, 355.
 Malden reservoir, 141.
 Mallard, 41, 57, **103**.
 Malone, R. B., 198.
 Mann, J. R., 99, 236, 330, 343, 356.
 Maple, red, 20, 23, 24, 34, 46-48, 51, 136,
 139, 155, 211, 216, 250, 261, 294, 299,
 321, 347, 348, 351, 359, 364, 385, 392.
 Maple Street, 29.
 Swamp, 44, **47-48**, 137, 145, 155, 171, 208,
 229, 232, 247, 288, 289, 323, 328, 333,
 338, 349, 350-353, 356, 393.

- Marblehead, 71.
 Marblehead Neck, 158.
 March, W. T., 149.
Mareca americana, 57, **107**.
 Ma-re-Mount, 70.
marila, *Aythya*, 117.
marinus, *Larus*, 41, 56, 93, **95**.
maritima, *Arquatella*, 57, 61, **158**.
 Marsh Hawk, 18, 52, 56, **182**.
 Quail, **244**.
 Street, 325, 378.
 Wren, Long-billed, 45, 46, 49, 50, 55, 60, 61, **371**.
 Short-billed, 45, 52, 55, **370**.
 Martha's Vineyard, 95, 173.
 Martin, Purple, 26, 55, **298**, 300.
 Sand, **304**.
 Marvill Head, 71.
 Maryland Yellow-throat, 46, 49, 51, 354.
 Massachusetts Avenue, 28, 32, 107, 138, 200, 265.
 Bay, 173.
 Central Railroad, 50.
 Maynard, C. J., 3, 109, 135, 136, 162, 168, 181, 185-187, 199, 204, 237, 241, 242, 257, 270, 272, 297, 298, 306, 312, 313, 327, 330, 353, 358, 398.
 McCarthy, Michael, 129.
 McKechnie, F. B., 3, 374.
 McLean Asylum, 203, 297, 330, 334.
 Meadow mouse, 186, 187.
 Meadow-hen, 36, **152**.
 Meadowlark, 19, 20, 54, 60, 61, 184, **244**, 278.
 Mead's Pond, 10 (see also Hardy's Pond and Sherman's Pond).
 Medford, 9, 71, 141, 212, 228, 297, 299, 367, 376.
 West, 86, 121, 212.
 Medford Golf Links, 212.
medianus, *Dryobates pubescens*, 15, 22, 28, 35, 53, 54, 59, 210, **211**, 238, 319, 320, 373, 376.
Megaquiscalus major, 58, **250**.
Megascops asio, 14, 15, 35, 37, 53, 54, 59, **201**, 217, 394.
Melanerpes erythrocephalus, 58, **214**.
melanoleucus, *Totanus*, 32, 56, **162**.
Meleagris gallopavo silvestris, 58, 61, **175**.
melodia, *Melospiza*, 22.
Melospiza cinerea melodia, 12, 17, 22, 27, 28, 38, 49, 55, 60, 61, 66, 256, 268-270, 278, 281, **284**, 286.
 georgiana, 17, 22, 38, 46, 49-51, 55, 60, **286**, 354.
 lincolni, 17, 56, 59, 271, **285**.
 melodia, 22.
 palustris, 22.
 Melrose, 212, 251, 355.
 Melrose Highlands, 396.
 Melvin, James C., 157.
 Menotomy, 83, 107.
 Menotomy Pond, 43.
 Merganser, American, 36, 40, 57, 60, **100**.
 Hooded, 36, 40, 41, 57, 60, 61, **102**.
 Red-breasted, 41, 57, **101**.
 Merganser *americanus*, 36, 40, 57, 60, **100**.
 serrator, 41, 57, **101**.
 Merriam, C. Hart, 65, 69.
 Merrimack River, 130.
 Merrimacke, 71.
 Merrymount, 121, 128, 142, 143, 175.
Merula migratoria, 13, 15, 21, 25, 26, 28, 29, 35, 54, 60, 63, 64, 67, 141, 184, 203, 219, 241, 248-250, 308, 365, 385, 387, **390**.
 mexicana, *Grus*, 58, **142**.
Microtus pennsylvanicus, 186, 187.
 Middlesex County, 178, 188, 224, 300.
 Fells, 328, 379.
migrans, *Lanius ludovicianus*, 58, **310**.
 Migrant Shrike, 58, **310**.
 Migrants, autumn, 56, 57.
 spring, 56.
migratoria, *Merula*, 13, 15, 21, 25, 26, 28, 29, 35, 54, 60, 63, 64, 67, 141, 184, 203, 219, 241, 248-250, 308, 365, 385, 387, **390**.
migratorius, *Ectopistes*, 57, 61, **176**, 180.
 Turdus, 21.
 Milldam, 93, 118.
 Miller, Gerritt S., Jr., 94, 144.
 Milton, 212, 336, 341.
Mimus carolinensis, 21.
 polyglottos, 58, 59, 61, 62, 79, **361**.
minimus, *Empidonax*, 12, 14, 28, 55, 61, 66, **232**, 320.
minor, *Loxia curvirostra*, 16, 35, 54, 59, **256**-259.
 Philohela, 23, 45, 48, 53, 55, 61, **154**, 260, 380, 391.
 Minot, H. D., 367, 373.
minutilla, *Actodromas*, 32, 56, **159**-161, 169.
 Missouri River, 74.
 Misticke, 71.
mitrata, *Wilsonia*, 58, **356**.
 Mixed flocks, 319, 337, 342, 343, 348.
Mniotilta varia, 17, 55, **318**.
 Mockingbird, 58, 59, 61, 62, 79, **361**.
Molothrus ater, 12, 16, 22, 28, 55, **240**, 243, 250.
 pecoris, 22.
 Monatoquit River, 70.
 Mongolian Pheasant, **173**.
 Monomoy Island, 242.
 Montana Junco, 58, **282**.
montanus, *Junco*, 58, **282**.
monticola, *Spizella*, 15, 28, 35, 56, 59, 60, 192, **278**, 284.
 Monument Square, Charlestown, 65.
 Moorhen, 150.
 Morris, R. O., 239.
 Morse, Albert P., 99, 162, 203, 204.
 Morse, —, 136.
 Morton, Thomas, **69**-73, 121, 126, 128, 130, 142, 143, 172, 175, 222.
 Mosher, F. H., 376.
motacilla, *Seiurus*, **398**.
 Mother Carey's Chicken, **98**.
 Moulton, Frank, 295.
 Mount Auburn, 9-11, 26, **33**-35, 66, 140, 146, 165, 170, 171, 177, 178, 180, 184, 185, 193, 197, 199, 203, 209, 215, 218, 223, 225-230, 232, 235, 237, 255, 257, 275, 280, 282, 285, 287, 293, 294, 297, 308,

- Mount Auburn (continued) 311, 314, 315, 318,
327, 329, 330, 335, 337, 338, 341, 343,
346, 348, 358, 360, 365, 368, 369, 375,
389-391, 392, 395, 396.
- Mount Auburn Region, **33-35**.
Street, 252, 296.
Ida, 263.
Wollaston, 70, 71.
- Mountain Linnet, 260.
- Mourning Dove, 57, 178, **179**.
Warbler, 17, 57, **352**.
- Mouse, meadow, 186, 187.
- Mud-hen, 37, 40, 49, 60, **152**.
- Munia oryzivora, 264.
- Murre, Brünnich's, 57, 61, **89**.
Common, 90.
- Museum of Comparative Zoölogy, 148, 204, 232,
242, 246, 262, 290, 312, 323, 347, 377,
384, 396.
- Muskrat, 37, 43, 49, 50.
- Muskrat Pond, **49**, 108, 111, 151, 152, 164.
- mustelina, *Hylocichla*, 18, 55, **383**.
- Myiarchus crinitus, 16, 53, 55, 63, **224**.
- Myrtle Warbler, 17, 52, 56, 325, **333**, 340, 345.
- Mystic Pond, Lower, 9, 85, 86, 98, 103, 116, 122,
124, 147, 152, 194, 269, 277, 285-287,
329, 330, 345.
Upper, 9, 85, 327.
Ponds, 40, 89-91, 95, 96, 101, 102, 104,
106, 109, 119, 121, 123-127, 134, 140,
152, 153, 167, 169, 179, 191, 194, 209,
216, 295.
River, 9, 43, 45, 91, 296.
- NÆVIUS, *Nycticorax nycticorax*, 12, 16, 20, 32,
38, 45, 46, 48, 49, 56, 133, 137, **138**, 202.
- Nahant, 71, 99, 130, 144.
- Nantasket Beach, 260, 268.
- Nashville Warbler, 17, 53, 55, 320, 321, **323**, 326,
336.
- Natick Hill, 143.
- Naushon Island, 367.
- nebulosa, *Scotiaptex*, 58, **197**.
- Needham, 376.
- nelsoni, *Ammodramus*, 32, 57, **274-276**.
subvirgatus, *Ammodramus*, 32, 57, 274,
275.
- Nelson's Sharp-tailed Finch, 32, **274**.
Sparrow, 32, 57, **274-276**.
- Neponset River, 144, 149.
- Nesbitt, John, 108.
- Nesbitt, Robert B., 171.
- Nesting dates, 4.
- Nettion carolinensis, 36, 37, 40, 41, 49, 50, 56,
61, 103, **108**.
- Newbury, 130.
- Newburyport, 71, 115.
- Newburyport Harbor, 130.
- Newton, 8, 136, 173, 199, 201, 216, 263, 301.
West, 228, 251, 310.
- Newton Natural History Society, 263.
- Newtonville, 162, 168, 237, 257, 272, 310, 327,
362.
- New-towne, 71.
- Nichols estate, 202, 203, 222, 235.
- Nichols, Howard Gardner, 271.
- Nichols, John T., 89, 251, 290.
- Night Heron, 20, 32, 38, 45, 46, 48, 49, 137, **138**,
202.
Black-crowned, 12, 16, 20, 32, 38,
45, 46, 48, 49, 56, 133, 137, **138**, 202.
Yellow-crowned, 57, **141**.
- Nighthawk, 16, 56, **219**, 221.
- Nightshade, deadly, 47, 208, 351, 387.
- nigra, *Rynchops*, 79.
- Nine-Acre-Corner, 380.
- Nippenicket Pond, 122.
- nitida, Rosa, 49.
- nivialis, *Chen hyperborea*, 58, **126**.
Passerina, 33, 56, 59, 60, **265**.
- Noble, J. H., 328.
- Noddle's Island, 72.
- Nomenclature, 5.
- Noupareil, **295**.
- North Adams, 306.
Lexington, 341, 359.
Seituate, 373.
Truro, 144.
- Northampton, 189.
- Northern Flicker, 12, 14, 15, 19, 20, 23, 25, 28,
35, 53, 54, 60, 67, 193, 210, **217**, 238.
- Parula Warbler, 17, 56, **328**.
- Phalarope, 57, **153**.
- Raven, 58, **237**.
- Shrike, 15, 56, **309**.
- Water-Thrush, 52, **349**, 398.
- Yellow-throat, 18, 46, 49, 51, 55, **354**.
- Norton, C. E., 249.
- Norton, Richard, 330.
- Norton's Woods, **20-25**, 154, 155, 170, 192, 197,
225, 229, 235, 242, 247, 249, 279, 289,
293, 298, 343-345, 348, 353, 360, 363,
368, 369, 375, 377, 378, 385, 393.
- Norumbega Tower, 129, 130.
- noveboracensis, Porzana, 57, **147**, 150.
Sciurus, 17, 52, 56, **249**, 398.
Vireo, 52, 53, 55, **317**.
- Noyes, J. A., 396.
- nuchalis, *Sphyrapicus varius*, 58, **214**.
- Numenius borealis, 163.
- Nuthatch, Canada, **375**.
Red-bellied, 59, 61, **375**.
Red-breasted, 18, 35, 56, 59, 61, 200, 373,
375.
White-bellied, 319, **374**.
White-breasted, 15, 19, 25, 28, 35, 54,
59, 200, 319, 373, **374**, 376.
- Nuttall Ornithological Club, 3, 268, 292.
- Nuttall, T., 7, 33, 35, **73-81**, 91, 110, 124, 132,
133, 138, 139, 146-148, 150, 162-165,
173, 180, 185, 187, 225, 226, 245, 271,
290, 291, 295, 296, 298, 300, 317, 323,
341, 346, 353, 370, 371, 398.
- Nuttallornis borealis, 35, 53, 56, 59, 62, **226**.
- Nyctale albifrons, 201.
- Nyctanassa violacea, 57, **141**.
- Nyctea nyctea, 33, 58, 205, **206**.
- nyctea, *Strix*, 205.

- Nycticorax nycticorax naevius*, 12, 16, 20, 32, 38, 45, 46, 48, 49, 56, 133, 137, **138**, 202.
- OAK, black, 24.
scarlet, 24, 200.
swamp white, 24, 47.
white, 24.
- Oakley Country Club, 361.
- Oaks, Waverley, 52, 53, 112, 147, 179, 193, 372.
- Oberholser, Harry C., 204, 205.
- O'Brien, Fr., 215.
- obscura, Anas, 36, 39-41, 43, 45, 46, 49, 51, 52, 55, 60, 61, 79, 83, 103, **104-106**, 109, 111, 114, 121, 126, 136.
rubripes, Anas, 41, 56, **104-106**, 121.
- Occasional visitors, 57.
- occidentalis, *Bubo virginianus*, 204, 205.
- Oceanites oceanicus, 99.
- Oceanodroma leucorhoa, 57, 61, **98**.
- Oidemia, americana, 40, 57, 60, 121, **123**, 125.
deglandi, 36, 39, 40, 57, 60, 116, 121, **123**.
perspicillata, 36, 39, 40, 57, 60, 116, 121, **124**.
- Olbiorchilus hiemalis, 57, **369**.
- Old Cambridge, **11-25**, 27, 119, 171, 200.
- Old-squaw, 36, 39, 40, 57, 60, **120**.
- olivaceus, Vireo, 13, 15, 21, 25, 27, 28, 55, **311**, 312, 320.
- Olive-back, **387**.
- Olive-backed Thrush, 18, 57, **387**.
- Olive-sided Flycatcher, 35, 53, 56, 59, 62, **226**.
- Olor buccinator, 130.
columbianus, 57, **129**.
- Orange-crown, **324**.
- Orange-crowned Warbler, 17, 57, 59, **324**, 332.
- Orchard Oriole, 55, 59, 62, **245**.
- oreganus shufeldti, Junco, 283.
- Oregon Junco, 283.
- oregonus, Junco, 283.
- Oriole, Baltimore, 12, 14, 22, 25, 26, 28, 29, 55, 63, 67, **246**, 293, 329.
Black, 250.
Golden, **246**.
Orchard, 55, 59, 62, **245**.
- Orne, Caroline Frances, 180.
- oryzivora, Munia, 264.
- oryzivorus, Dolichonyx, 12, 16, 19, 33, 51, 55, 61, **239**, 241, 243-245.
- Osprey, American, 56, **194**.
- ossifragus, Corvus, 58, **238**.
- Otocoris alpestris, 56, **233**, 266, 267, 360.
praticola, 58, **234**, 266.
- Oven-bird, 17, 21, 23, 55, 320, **348**.
- Owl, Acadian, 59, **200**.
American Hawk, 58, **207**.
Long-eared, 54, **195**.
Arctic, **206**.
Horned, 5, 58, **203**.
Barred, 54, **197**, 397.
Cat, **202**.
Great Gray, 58, **197**.
Horned, 46, 58, 61, 63, **202**, 204.
Hawk, **207**.
- Owl, Long-eared, **195**.
Richardson's, 58, **199**.
Saw-whet, 56, 59, 61, 199, **200**.
Screech, 14, 15, 35, 37, 53, 54, 59, **201**, 217, 394.
Short-eared, 56, **196**.
Snowy, 33, 58, 205, **206**.
Oxford Street, 377, 384.
Oxyechus vociferus, 57, **167**.
- PACIFICUS, *Bubo virginianus*, 204, 205.
- Paine, Charles J., Jr., 99.
- Paine, John B., 99.
- Painted Bunting, 58, **295**.
- Palfrey's Woods, 323.
- pallasii, *Hylocichla guttata*, 18, 57, 59, 61, **388**.
- pallescens, *Bubo virginianus*, 204, 205.
- Palm Warbler, 57, **344**.
Yellow, 17, 56, 334, **345**.
- palmarum, *Dendroica*, 57, **344**.
hypochrysea, *Dendroica*, 17, 56, 334, **345**.
- Palmer, William, 354.
- palustris, *Melospiza*, 22.
Telmatodytes, 45, 46, 49, 50, 55, 60, 61, **371**.
- Pandion haliaëtus carolinensis, 56, **194**.
- Panicled cornel, 231.
- Park, Dean W., 263.
- Parker, Bertha T., 3, 155, 298, 323, 327, 345, 347, 353, 369.
- Parsons, Caroline L., 292.
- Partridge, **171**, 172.
- Partridge berry, 24.
- Parula Warbler, Northern, 17, 56, **328**.
- Parus atricapillus, 15, 21, 25, 28, 35, 53, 54, 59, 200, 210, 211, 315, 319, 320, 337, 348, 373, 376, **377**, 379-381, 383.
hudsonicus, 58, **378**.
- Passenger Pigeon, 57, 61, **176**, 180.
- Passer domesticus, 7, 14, 15, 25, 26, 29, 35, 58, 60, 61, 65-69, 183, 192, 197, 202, 211, 217, 229, 232, **255**, 261, 278, 279, 284, 299, 300, 303, 304, 310, 314, 368, 390, 395, 396.
- Passerculus princeps, 58, 61, **268**, 270.
sandwichensis savanna, 26, 33, 56, 268, **269**.
- Passerella iliaca, 17, 56, 60, 278, **288**.
- Passerina nivalis, 33, 56, 59, 60, **265**.
- passerinus, Coturniculus, 296.
savannarum, 55, **270**, 296.
- Passonagessit, 70.
- Payson Park, 113, 179, 193, 198, 216, 234, 291, 361, 366, 367, 375.
- Peabody Academy of Science, 237.
- Peabody, Francis G., 353.
- Peabody, William B. O., 150, 250, 251, 321, 380.
- Peabody-bird, **277**.
- Peace Dale, R. I., 65.
- Peck, W. D., 75.
- pecoris, *Molothrus*, 22.
- Pectoral Sandpiper, 32, 57, **158**.
- Peep, **159**, **160**.
- Peirce, Benjamin, 262, 263.

- Peirce, Herbert, 263.
 Peirce, James Mills, 262, 263.
 pelagica, Chactura, 12, 14, 25, 28, 29, 55, 61, **220**, 301.
 Pelidna alpina sakhalina, 57, **160**.
 pennsylvanicus, Microtus, 186, 187.
 pensilvanicus, Anthus, 33, 57, **360**.
 pennsylvanica, Dendroica, 17, 55, **336**.
 peregrina, Helminthophila, 58, **327**.
 peregrinus anatum, Falco, 58, 63, 70, **191**, 192.
 Perisoreus canadensis, 58, **236**.
 Perkins, Albert W., 298.
 Permanent residents, 51.
 perspicillata, Oidemia, 36, 39, 40, 57, 60, 116, 121, **124**.
 Petrel, Leach's, 57, 61, **98**.
 Wilson's, 99.
 Petrochelidon lunifrons, 28, 55, 66-68, **300**.
 Pewee, Least, **232**.
 Wood, 12, 16, 22, 25, 28, 55, **228**, 320.
 Phalacrocorax dilophus, 57, **99**.
 Phalarope, Northern, 57, **153**.
 Red, 57, **153**, 154.
 Phalaropus lobatus, 57, **153**.
 Phasianus torquatus, 58, **173**.
 Pheasant, 172.
 Mongolian, **173**.
 Ring-necked, 58, **173**.
 Philadelphia, 74-76, 78, 121, 271.
 Philadelphia Academy of Natural Sciences, 76, 78.
 Vireo, 58, **312**.
 philadelphia, Geothlypis, 17, 57, **352**.
 Larus, 57, **97**.
 philadelphicus, Vireo, 58, **312**.
 Phillips, J. C., 128.
 phillipsii, Picus, **398**.
 Phillips's Woodpecker, **398**.
 Philohela minor, 23, 45, 48, 53, 55, 61, **154**, 260, 380, 391.
 Phœbe, 55, **225**.
 phoebe, Sayornis, 55, **225**.
 phœniceus, Agelaius, 19, 22, 23, 46, 49-51, 55, 60, 241, **242**, 248, 250, 278, 287, 354.
 Pickerel, 44.
 Pickerel weed, 47.
 Pickering, Charles, 78, 246.
 Pickering's hyla, 247.
 Picoides arcticus, 58, **212**.
 Picus phillipsii, **398**.
 pubescens, 22.
 Pied Duck, 121.
 Pied-billed Grebe, 36, 40, 41, 49-51, 56, 60, **87**.
 Piety Corner, 378.
 Pig Rocks, 158.
 Pigeon Hawk, 56, **192**, 193.
 Pigeon, Passenger, 57, 61, **176**, 180.
 Wild, 61, **176**, 180.
 'Pilgrim,' brig, 77.
 pina, Dendroica, 21.
 Pine Creeper, 28, **343**.
 Finch, **262**.
 Grosbeak, 15, 35, 56, 59, 60, **252**, 259, 262.
 Grove, 27, 28.
 Pine Hill, 212.
 Linnet, 59, 61, 260, **262**.
 Siskin, 35, 56, 59, 61, **260-262**.
 Swamp, **45-46**, 50, 155, 186, 188, 197, 203, 225, 230, 237, 285, 337, 341, 350, 351, 355.
 Warbler, 21, 23, 27, 28, 35, 55, 61, **343**.
 Pine, ground, 24.
 pitch, 27, 28, 34, 35, 140, 181, 184, 185, 195, 197, 227, 230, 237, 257, 315, 324, 342, 343, 346, 376, 378.
 white, 19, 20, 23, 24, 34, 45, 46, 48, 139, 140, 184, 195, 197, 198, 202, 212, 249, 341-343, 346, 379.
 Pine-creeping Warbler, 21, 27, **343**.
 Pinicola enucleator leucura, 15, 35, 56, 59, 60, **252**, 259, 262.
 Pintail, 41, 49, 57, **110**.
 pinus, Helminthophila, 58, **322**.
 Spinus, 35, 56, 59, 61, **260-262**.
 Pipilo erythrophthalmus, 17, 55, **289**.
 Pipit, American, 33, 57, **360**.
 Pipsissewa, 24.
 Piranga erythromelas, 17, 55, **297**, 320.
 rubra, 58, **298**, 362.
 Pitch pine, 27, 28, 34, 35, 140, 181, 184, 185, 195, 197, 227, 230, 237, 257, 315, 324, 342, 343, 346, 376, 378.
 Planting Bird, **364**.
 platypterus, Buteo, 56, **188**.
 Plegadis autumnalis, 57, **131**.
 Plover, Field, **166**.
 Golden, 163.
 Killdeer, 168.
 Ring-necked, 32, 161, **169**.
 Semipalmated, 32, 33, 57, 115, 117, 161, **169**.
 Upland, 32, 61, 163, **166**.
 Plum Island Creek, 130.
 Plummer, Gordon, 92, 215.
 Plymouth, 69-71, 397.
 Plymouth County, 144.
 Podilymbus podiceps, 36, 40, 41, 49-51, 56, 60, **87**.
 Point Lepreaux, N. B., 207.
 Poison ivy, 24, 387, 388.
 Polioptila cærulea, 292, 362.
 Polyandry, 301.
 Polygamy, 301.
 polyglottos, Mimus, 58, 59, 61, 62, 79, **361**.
 Pomolobus pseudoharengus, 44, 91, 191, 194.
 Ponkapog Pond, 148.
 Pooecetes gramineus, 55, 234, **267**, 270, 281.
 Porhethria dispar, 35.
 Portland, Me., 69, 72.
 Porzana carolina, 32, 45, 46, 49, 50, 55, 145, **146-149**.
 jamaicensis, 58, **148**.
 noveboracensis, 57, **147**, 150.
 Pout Pond, 9, **45-46**, 106, 107, 112, 113, 140, 143, 145, 146, 149, 150-152, 156, 165, 177, 186, 203, 243, 287, 299, 355, 372.
 Pout Pond Swamp, 104.
 Prairie Grouse, 173.

- Prairie Hen, 58, **171**.
 Horned Lark, 58, **234**, 266.
 Warbler, 55, **346**.
praticola, *Otocoris alpestris*, 58, **234**, 266.
 Preble, E. A., 199.
 Prescott Street, 29, 266.
princeps, *Passerculus*, 58, 61, **268**, 270.
principalis, *Corvus corax*, 58, **237**.
 Privet, 34.
Progne subis, 26, 55, **298**, 300.
 Prospect Hill, 9, 119, 312, 315, 341, 346, 347, 362, 383.
 Street, Belmont, 53.
 Provincetown, 356.
pseudoharengus, *Pomolobus*, 44, 91, 191, 194.
pubescens medianus, *Dryobates*, 15, 22, 28, 35, 53, 54, 59, 210, **211**, 238, 319, 320, 373, 376.
Picus, 22.
 Public Garden, 65, 238, 250, 310.
 Puffin, 90.
 Pullen, F. B., 154.
 Purdie, H. A., 144, 155, 215, 234, 263, 291, 297, 353, 362, 369, 385.
 Purgatory Swamp, 136.
 Purple Finch, 12, 14, 21, 27, 28, 35, 54, 60, 61, 66, **254**, 256, 271.
 Grackle, 22, 55, **248**, 251.
 Martin, 26, 55, **298**, 300.
 Sandpiper, 57, 61, **158**.
purpureus, *Carpodacus*, 12, 14, 21, 27, 28, 35, 54, 60, 61, 66, **254**, 256, 271.
pusilla, *Spizella*, 55, **280**.
Wilsonia, 18, 52, 57, **357**, 358.
pusillus, *Ereunetes*, 32, 57, **160**, 161, 169.
- QUAIL, 35, 50, 59-61, **170**, 172-174, 180.
 Marsh, **244**.
 Quaw Bird, **138**.
Quercus bicolor, 24.
Querquedula discors, 36, 37, 40, 46, 49, 50, 56, 61, **109**.
 Quincy Bay, 70, 121.
 Street, 264.
Quiscalus baritus, 250, 251.
quiscula, 55, **248**.
æneus, 12, 14, 22, 25, 55, 67, 241, 248, **249**, 251.
versicolor, 22.
quiscula æneus, *Quiscalus*, 12, 14, 22, 25, 55, 67, 241, 248, **249**, 251.
Quiscalus, 55, **248**.
- RAIL, Black, 58, **148**.
 Carolina, 32, 45, 46, 49, 50, 145, **146-149**.
 King, **143**, 149.
 Virginia, 45, 46, 49, 50, 55, 143, **145**, 147, 149.
 Yellow, 57, **147**, 150.
 Rallus *elegans*, **143**, 149.
virginianus, 45, 46, 49, 50, 55, 143, **145**, 147, 149.
 Rand, Manning K., 250.
- Raven, Northern, 58, **237**.
 Razor-billed Auk, 90.
 Reading, 177, 251.
 Readville, 144, 149.
 Reagh, Arthur L., 144, 376.
 Red cedar, 10, 27, 34, 35, 52, 60, 140, 170, **171**, 197, 226, 227, 237, 248, 254, 279, 281, 284, 286, 289, 294, 307, 309, 315, 324, 326, 330, 333, 335, 343, 346, 347, 358, 362, 363, 365, 373, 379, 381, 388, 391, 392, 396.
 Crossbill, **256-258**.
 maple, 20, 23, 24, 34, 46-48, 51, 136, 139, 155, 211, 216, 250, 261, 294, 299, 321, 347, 348, 351, 359, 364, 385, 392.
 Phalarope, 57, **153**, 154.
 squirrel, 20, 50.
 Red-backed Sandpiper, 57, **160**.
 Red-bellied Nuthatch, 59, 61, **375**.
 Redbird, Summer, **298**.
 Red-breasted Merganser, 41, 57, **101**.
 Nuthatch, 18, 35, 56, 59, 61, 200, 373, **375**.
 Red-eye, **311**.
 Red-eyed Vireo, 13, 15, 21, 25, 27, 28, 55, **311**, 312, 320.
 Redhead, 41, 57, **113**, 117.
 Red-headed Woodpecker, 58, **214**.
 Red-legged Black Duck, 41, 56, **104-106**, 121.
 Red-naped Sapsucker, 58, **214**.
 Redpoll, 28, 35, 56, 59, **258-261**, 263.
 Greater, 56, 59, **259**, 260.
 Hoary, 58, 59, **258-260**.
 Holboll's, 58, 59, **259**, 260.
 Lesser, 28, **258**.
 Redpoll Warbler, **344**.
 Yellow, 334, **345**.
 Red-shouldered Hawk, 20, 35, 54, 59, 186, **187**.
 Redstart, 21, 25, 28, 29, 61, 67, 337, **359**.
 American, 15, 21, 25, 28, 29, 55, 61, 67, 337, **359**.
 Red-tailed Hawk, 35, 56, 61, **186**.
 Red-throated Loon, 57, **89**.
 Redwing, 19, 46, **242**, 248, 250, 278.
 Red-winged Blackbird, 19, 22, 23, 46, 49-51, 55, 60, 241, **242**, 248, 250, 278, 287, 354.
 Reed, C. K., 264.
Regulus calendula, 18, 57, 373, 376, **382**.
 satrapa, 15, 28, 35, 56, 59, 200, 373, 376, 380, **381**, 383.
 Reservoir Street, 19.
 Residents, permanent, 54.
 summer, 4, 55.
 winter, 4, 56.
 Revere Beach, 8, 122, 260, 268, 272.
 Marshes, 71, 104, 105, 137, 274, 361.
 Revere, W. B., 242.
 Rice, wild, 43, 148, 243.
 Richardson, Howard, 37.
richardsoni, *Cryptoglaux tengmalmi*, 58, **199**.
 Richardson's Owl, 58, **199**.
 Richmond, Charles W., 205.
 Ridgway, Robert, 174, 186, 187, 190, 204, 260, 283, 325, 332.

- Riedesel Avenue, 309.
 Ring-neck, 115, **117**, **169**.
 China, 174.
 Ring-necked Duck, 40, 57, 115, **117**, 152.
 Pheasant, 58, **173**.
 Plover, 32, 161, **169**.
 Riparia riparia, 55, 61, 301, **304**.
 Riverbank Court, 273.
 Rivet, —, 125, 126.
 Robbins, George H., 171, 178.
 Robin, 21, 25, 26, 28, 29, 35, 60, 63, 64, 67, 141,
 181, 203, 219, 241, 248–250, 308, 365,
 385, 387, **390**.
 American, 13, 15, 21, 25, 26, 28, 29, 35,
 54, 60, 63, 64, 67, 141, 181, 203, 219,
 241, 248–250, 308, 365, 385, 387, **390**.
 Golden, **246**.
 Ground, **289**.
 Robinson, Wirt, 165, 171.
 Rock Meadow, **51–52**, 106, 112, 127, 133, 134,
 145–149, 155, 157, 165, 170, 179, 182,
 183, 186, 189, 218, 220, 240, 242, 247,
 263, 272, 287, 289, 294, 305, 317, 335,
 349, 350, 354, 356, 357, 366, 371, 383,
 385.
 Roosts, 241, 248, 250, 299, 392–394.
 Rosa nitida, 49.
 Rose-breasted Grosbeak, 15, 22, 25, 28, 55, 61,
 67, **293**.
 Roslindale, 136.
 rostrata, Acanthis linaria, 56, 59, **259**, 260.
 Roteh, —, 321.
 Rough-legged Hawk, **189**.
 American, 56, **189**.
 Rough-winged Swallow, 58, **305**.
 Roxbury, 29, 71.
 West, 251, 322.
 Royal fern, 337.
 rubra, Piranga, 58, **298**, 362.
 rubricapilla, Helminthophila, 17, 53, 55, 320,
 321, **323**, 326, 336.
 rubripes, Anas obscura, 41, 56, **104–106**, 121.
 Ruby-crown, **382**.
 Ruby-crowned Kinglet, 18, 57, 373, 376, **382**.
 Ruby-throat, **221**.
 Ruby-throated Hummingbird, 12, 14, 22, 28,
 55, **221**.
 Ruddy Duck, 36, 37, 39–41, 56, 60, 116, 119,
 120, 123, **125**.
 Ruffed Grouse, 35, 46, 50, 54, 59, 61, **171–174**.
 rufum, Toxostoma, 18, 55, 184, **364**.
 Rum cherry, 24, 47, 385, 392.
 Russell, Charles Theodore, 224.
 Rusty Blackbird, 4, 56, **247**.
 ruticilla, Setophaga, 15, 21, 25, 28, 29, 55, 61,
 67, 337, **359**.
 Rye Beach, 381.
 Rynchops nigra, 79.

 St. John, N. B., 94.
 St. Louis, Mo., 76.
 St. Peter's Church, 215.
 sakhalina, Pelidna alpina, 57, **160**.
 Salem, 71, 144, 190, 310, 323.
 salicifolia, var. latifolia, Spiraea, 151.
 Samuels, E. A., 250, 251, 322.
 San Diego, Cal., 77.
 sancti-johannis, Archibuteo lagopus, 56, **189**.
 Sand Martin, **304**.
 Sanderling, 57, **161**.
 Sandhill Crane, 58, **142**.
 Sandpiper, Bartramian, 16, 32, 56, 61, 163, **166**.
 Least, 32, 56, **159–161**, 169.
 Pectoral, 32, 57, **158**.
 Purple, 57, 61, **158**.
 Red-backed, 57, **160**.
 Semipalmated, 32, 57, **160**, 161, 169.
 Solitary, 56, 60, **165**.
 Spotted, 33, 38, 55, 60, **167**.
 Sandwich, 72, 270.
 Sandwich Islands, 76, 77.
 sandwichensis savanna, Passerculus, 26, 33, 56,
 268, **269**.
 Sanger, Frank, 241.
 Sapsucker, 210, **213**.
 Red-naped, 58, **214**.
 Yellow-bellied, 16, 56, 210, **213**, 214.
 Sarsaparilla, 24.
 satrapa, Regulus, 15, 28, 35, 56, 59, 200, 373,
 376, 380, **381**, 383.
 Saugus, 71, 129, 142, 180, 237.
 Saunders, Howard, 94.
 Savanna Finch, 271.
 Sparrow, 26, 33, 56, 268, **269**.
 savanna, Passerculus sandwichensis, 26, 33, 56,
 268, **269**.
 savannarum passerinus, Coturniculus, 55, **270**,
 296.
 Savin, 27.
 Saw-whet, 199, **200**.
 Saw-whet Owl, 56, 59, 61, 199, **200**.
 Sayornis phoebe, 55, **225**.
 Scarborough, Me., 72, 150, 175.
 Scarlet oak, 24, 200.
 Tanager, 17, 55, **297**, 320.
 Scaup Duck, Greater, 117.
 Duck Lesser, 36, 39–41, 56, 60, **116**.
 Lesser, 36, 40, 41, 60, **116**.
 School Street, 215, 361.
 Scituate, North, 373.
 Seiurus carolinensis leucotis, 20, 50.
 hudsonicus loquax, 20, 50.
 Scorgie, Anna M., 378.
 Scorgie, J. C., 378.
 Scoter, American, 40, 57, 60, 121, **123**, 125.
 Surf, 36, 39, 40, 57, 60, 116, 121, **124**.
 White-winged, 36, 39, 40, 57, 60, 116,
 121, **123**.
 Scotiaptex nebulosa, 58, **197**.
 Scott, W. E. D., 176–178.
 Screech Owl, 14, 15, 35, 37, 53, 54, 59, **201**, 217,
 394.
 Sea Gull, **96**.
 Seashore goldenrod, 32.
 Seiurus aurocapillus, 17, 21, 23, 55, 320, **348**.
 motacilla, **398**.
 noveboracensis, 17, 52, 56, **349**, 398.

- semipalmata, *Aegialitis*, 32, 33, 57, 115, 117, 161, 169.
 Semipalmated Plover, 32, 33, 57, 115, 117, 161, 169.
 Sandpiper, 32, 57, 160, 161, 169.
 serrator, Merganser, 41, 57, 101.
 serripennis, *Stelgidopteryx*, 58, 305.
 Setophaga ruticilla, 15, 21, 25, 28, 29, 55, 61, 67, 337, 359.
 Settle, Eng., 74.
 Sever Hall, 263.
 Sexual jealousy, 63.
 Shady Hill Nurseries, 23.
 Shaler, N. S., 263.
 Sharp-shinned Hawk, 18, 56, 183, 321.
 Sharp-tail, Acadian, 275.
 Sharp-tailed Finch, 26, 32, 61, 272.
 Acadian, 32, 275.
 Nelson's, 32, 274.
 Sparrow, 26, 33, 55, 61, 272, 275, 276.
 Acadian, 32, 57, 274, 275.
 Shattuck, George C., 106.
 Shel Drake, 100, 101.
 Shell-bark hickory, 19.
 Sherman's Pond, 10, 169, 224, 353 (see also Hardy's Pond).
 Shore Lark, 233.
 Short-billed Marsh Wren, 45, 52, 55, 370.
 Short-eared Owl, 56, 196.
 Shoveller, 57, 110.
 Shrike, Loggerhead, 310.
 Migrant, 58, 310.
 Northern, 15, 56, 309.
 White-rumped, 310.
 shufeldti, *Junco hyemalis*, 58, 283.
 oreganus, 283.
 Shufeldt's Junco, 58, 283.
 Sialia sialis, 13, 18, 26, 28, 35, 53, 55, 61, 64, 66-68, 80, 203, 256, 278, 304, 315, 367, 395.
 silvestris, *Meleagris gallopavo*, 58, 61, 175.
 Simonds, Henry, 128.
 Simon's Hill, 177, 305.
 Siskin, European, 18, 58, 264.
 Pine, 35, 56, 59, 61, 260-262.
 Sitta canadensis, 18, 35, 56, 59, 61, 200, 373, 375.
 carolinensis, 15, 19, 25, 28, 35, 54, 59, 200, 319, 373, 374, 376.
 Skimmer, Black, 79.
 Skunk Blackbird, 239.
 Skylark, 58, 232.
 Slate-colored Junco, 16, 28, 35, 56, 59, 60, 268, 278, 281, 282, 284, 288.
 Sleepy Hollow Cemetery, 376.
 Slocum, William H., 117.
 Smith, Benjamin G., 249.
 Smith, C. J., 153.
 Smith, Charles C., 71.
 Smith, Samuel, 181.
 Smith (Chauncey) estate, 209, 249.
 Smith's Pond, 40, 106, 112, 114, 117, 125, 157, 196, 321 (see also Little Pond).
 Snipe, 49, 51, 157.
 English, 156.
 Wilson's, 19, 32, 38, 46, 49, 51, 56, 60, 156, 159, 196.
 Snow Bunting, 33, 59, 60, 265.
 Snow, Charles T., 373.
 Snow Goose, 73.
 Greater, 58, 126.
 Lesser, 58, 126.
 Snowbird, 231.
 Snowflake, 33, 56, 59, 60, 265.
 Snowy Owl, 33, 58, 205, 206.
 socialis, *Spizella*, 12, 15, 22, 25, 27, 28, 55, 63, 234, 240, 241, 278, 279-281, 337.
 Sohier, William, 82.
 Soldiers' Field, 32.
 solitarius, *Helodromas*, 56, 60, 165.
 Vireo, 4, 14, 15, 56, 59, 61, 315.
 Solitary Sandpiper, 56, 60, 165.
 Vireo, 4, 14, 59, 61, 315.
 Somateria spectabilis, 57, 122.
 Somerset Club house, 238.
 Somerville, 9, 141, 181, 267, 269, 270, 310.
 West, 207.
 Song Sparrow, 12, 17, 22, 27, 28, 38, 49, 55, 60, 61, 66, 256, 268-270, 278, 281, 284, 286.
 Sora, 32, 45, 46, 49, 50, 55, 145, 146-149.
 Sornborger, J. D., 396.
 Sortwell, Alvin F., 19.
 South Sudbury, 251.
 Yarmouth, 181.
 Southwick, J. M., 143.
 Sparks Street, 11, 12, 137, 177, 223, 224, 229, 230, 291, 292, 302, 316, 327, 330, 360, 378, 396.
 Sparrow, Acadian Sharp-tailed, 32, 57, 274, 275.
 Brewer's, 58, 280.
 Chipping, 12, 15, 22, 25, 27, 28, 55, 63, 234, 240, 241, 278, 279-281, 337.
 English, 65, 192, 197, 202, 211, 229, 232, 255, 261, 278, 303, 304, 368, 390.
 Field, 55, 280.
 Fox, 17, 56, 60, 278, 288.
 Grasshopper, 55, 270, 296.
 Ground, 284.
 Henslow's, 55, 271.
 House, 7, 14, 15, 25, 26, 29, 35, 58, 60, 61, 65-69, 183, 192, 197, 202, 211, 217, 229, 232, 255, 261, 278, 279, 284, 299, 300, 303, 304, 310, 314, 368, 390, 395, 396.
 Ipswich, 58, 61, 268, 270.
 Java, 264.
 Lincoln's, 17, 56, 59, 271, 285.
 Nelson's, 32, 57, 274-276.
 Savanna, 26, 33, 56, 268, 269.
 Sharp-tailed, 26, 33, 55, 61, 272, 275, 276.
 Song, 12, 17, 22, 27, 28, 38, 49, 55, 60, 61, 66, 256, 268-270, 278, 281, 284, 286.
 Swamp, 17, 22, 38, 46, 49-51, 55, 60, 286, 354.
 Tree, 15, 28, 35, 56, 59, 60, 192, 278, 284.
 Vesper, 55, 234, 267, 270, 281.
 White-crowned, 56, 276, 326.
 White-throated, 16, 56, 60, 276, 277.
 Yellow-shouldered, 271.
 Yellow-winged, 270, 296.
 Sparrow Hawk, 189, 192, 193.
 American, 16, 54, 189, 192, 193.
 sparverius, *Falco*, 16, 54, 189, 192, 193.

- Spatula clypeata*, 57, **110**.
spectabilis, Somateria, 57, **122**.
 Spelman, H. M., 3, 110, 153, 165, 179, 182, 196, 215, 233, 239, 243, 247, 258-260, 276, 315, 321, 323, 327, 338, 344, 351, 361, 369, 378, 382, 387.
 Spelman, Israel M., 230, 378.
Sphyrapicus varius, 16, 56, 210, **213**, 214.
 nuchalis, 58, **214**.
Spinus pinus, 35, 56, 59, 61, 260-262.
 pinus, 18, 58, **264**.
Spirea salicifolia, var. *latifolia*, 151.
Spiza americana, 58, 59, 62, 64, **295**.
Spizella breweri, 58, **280**.
 monticola, 15, 28, 35, 56, 59, 60, 192, **278**, 284.
 pusilla, 55, **280**.
 socialis, 12, 15, 22, 25, 27, 28, 55, 63, 234, 240, 241, 278, **279-281**, 337.
sponsa, Aix, 36, 37, 40, 43, 45, 46, 49, 53, 56, 61, 79, 83, 106, **111**.
 Spot Pond, 328.
 Spotted Sandpiper, 33, 38, 55, 60, **167**.
 Spring migrants, 56.
 Street, Arlington, 53.
 Springfield, 239.
 Spruce Grouse, 172.
spurius, Icterus, 55, 59, 62, **245**.
 Spy Pond, 9, 40, 42, 43, 83, 85, 86, 95, 96, 98, 100-103, 109, 110, 112, 114, 116, 119, 121, 123-128, 152, 162, 164, 167, 169, 225, 291, 301.
 Squirrel, gray, 20, 50.
 red, 20, 50.
 Standish, Myles, 70.
 State House, 238, 302.
Stelgidopteryx serripennis, 58, **305**.
stellaris, Cistothorus, 45, 52, 55, **370**.
 Stephens, John L., 81.
 Sterling, 188.
Sterna hirundo, 57, **98**.
 Stimpson farm, 111, 164, 165, 302, 303.
 Stimpson, Royal, 49.
 Stock-dove, 180.
 Stockwell, Adelaide, 92.
 Stone, William, 181, 280.
 Stone, Witmer, 204, 205.
 Stony Brook, 9, 398.
 Stony Brook Reservoir, 119, 191.
 Storer, J. H., Jr., 397.
 Strawberry Hill, 128, 194.
striata, Dendroica, 17, 52, 56, 328, **339**, 351.
striatus lysteri, Tamias, 20.
stricta, Carex, 243, 287.
Strix arctica, 205.
 nyctea, 205.
Sturnella magna, 19, 20, 54, 60, 61, 184, **244**, 278.
 Sturtevant, E., 143.
subarcticus, Bubo, 204, 205.
 virginianus, 5, 58, **203**.
subis, Progne, 26, 55, **298**, 300.
subvirgatus, Ammodramus *nelsoni*, 32, 57, 274, **275**.
 Sudbury, 149, 272, 341.
 Sudbury Meadows, 144.
 Sudbury River, 99, 149.
 Sudbury, South, 251.
 Summer Redbird, **298**.
 residents, 4, 55.
 Tanager, 58, **298**, 362.
 Yellow-bird, 21, **331**.
 Yellow-leg, **163**.
 Sunergren, Charles, 85.
 Surf Scoter, 36, 39, 40, 57, 60, 116, 121, **124**.
Surnia ulula caparoch, 58, **207**.
swainsoni, *Hyalocichla ustulata*, 18, 57, **387**.
 Swainson's Thrush, **387**.
 Swallow, Bank, 55, 61, 301, **304**.
 Barn, 12, 17, 26, 28, 55, 61, **302**.
 Chimney, **220**.
 Cliff, 28, 53, 66-68, **300**.
 Eave, 28, 66, **300**.
 Rough-winged, 58, **305**.
 Tree, 13, 17, 26, 28, 55, 61, 66-68, 299, **303**, 308.
 White-bellied, 26, **303**.
 Swallow-tailed Kite, 6.
 Swamp Blackbird, **242**.
 Sparrow, 17, 22, 38, 46, 49-51, 55, 60, **286**, 354.
 white oak, 24, 47.
 Swampscott, 64, 71, 98, 121, 158, 268, 397.
 Swan, Alfred S., 106, 124, 125.
 Swan Pond, 181.
 Swan, Whistling, 57, **129**.
 Sweet Auburn, 33, 180, 218, 226.
 gale, 49, 51, 87.
 Swift, Chimney, 12, 14, 25, 28, 29, 55, 61, **220**, 301.
 Sycamore, 26, 193.
Syrnium varium, 54, **197**, 397.

 TAMIAS *striatus lysteri*, 20.
 Tanager, **297**.
 Scarlet, 17, 55, **297**, 320.
 Summer, 58, **298**, 362.
 Taunton, 356, 373, 397.
 Tawny Thrush, **384**.
 Taylor, —, 130.
 Teal, Blue-winged, 36, 37, 40, 46, 49, 50, 56, 61, **109**.
 Green-winged, 36, 37, 40, 41, 49, 50, 56, 61, 103, **108**.
Telmatodytes palustris, 45, 46, 49, 50, 55, 60, 61, **371**.
tengmalmi richardsoni, *Cryptoglaux*, 58, **199**.
 Tennessee Warbler, 58, **327**.
 Tern, Common, 57, **98**.
 Wilson's, **98**.
 Thaxter, John, 296.
 Thayer, John E., 188.
 Thistle-bird, **261**.
 Thompson, Z., 142.
 Thoreau, Henry D., 385.
 Thrasher, **364**.
 Brown, 18, 55, 184, **364**.
 Three-toed Woodpecker, Arctic, 58, **212**.
 Black-backed, **212**.
 Thrush, Alice's, **386**.

- Thrush Bicknell's, 18, 57, **386**, 387.
 Brown, **364**.
 Golden-crowned, 21, **348**.
 Gray-cheeked, 18, 57, **386**, 387.
 Hermit, 18, 57, 59, 61, **388**.
 Olive-backed, 18, 57, **387**.
 Swainson's, **387**.
 Tawny, **384**.
 Wilson's, 18, 21, 55, **384**.
 Wood, 18, 55, **383**.
 Thryothorus ludovicianus, 58, 59, 61, 292, 362, **366**.
 Thurlow, George F., 130.
 tigrina, Dendroica, 56, **329**.
 tinnunculus, Falco, 189.
 Titlark, 33, **360**.
 Titmouse, Black-capped, 21, **377**, 380.
 Hudson Bay, 380.
 Hudsonian, **378**.
 Tophet Swamp, 341, 359.
 torda, Alca, 90.
 torquatus, Phasianus, 58, **173**.
 Torrey, Bradford, 149, 152, 215, 281, 383, 392, 396.
 Torrey, John, 74, 398.
 Totanus bartramius, 163.
 flavipes, 32, 49, 57, 61, 161, **163**.
 melanoleucus, 32, 56, **162**.
 Touch-me-not, 47, 222, 351.
 Towhee, 17, 55, **289**.
 Towne, E. B., 178.
 Townsend, Charles W., 3, 95-97, 99, 107, 128, 144, 225, 303, 354, 361, 362, 374.
 Townsend, John K., 75-77.
 Townsend, W. S., 361.
 Toxostoma rufum, 18, 55, 184, **364**.
 traillii alnorum, Empidonax, 56, 59, 61, **230**.
 Empidonax, 231.
 Traill's Flycatcher, **230**, 231.
 Transient visitors, 4.
 Transition Life Zone, 59.
 Trapelo road, Waltham, 216, 388.
 Tree Creeper, **372**.
 Sparrow, 15, 28, 35, 56, 59, 60, 192, **278**, 284.
 Swallow, 13, 17, 26, 28, 55, 61, 66-68, 299, **303**, 308.
 trichas brachidactyla, Geothlypis, 18, 46, 49, 51, 55, **354**.
 Geothlypis, 354.
 tristis, Astragalinus, 12, 15, 22, 28, 35, 54, 59, **261**, 263, 264.
 Chrysomitris, 22.
 Trochilus colubris, 12, 14, 22, 28, 55, **221**.
 Troglodytes aëdon, 13, 18, 21, 26-28, 35, 53, 55, 61, 66-68, 256, 304, **367**, 395.
 brevirostris, 370.
 troile, Uria, 90.
 Truro, North, 144.
 Tuckerman, E., 73, 172, 175.
 Tudor boathouse, 100.
 estate, 43, 44, 192-194, 216, 245.
 Ice Company, 44, 50, 203.
 Tufts, A. M., 330.
 Tupelo, 24, 47, **376**.
 Turdus fuscescens, 21.
 Turdus migratorius, 21.
 Turkey Buzzard, **181**.
 Hill, 175, 212, 376.
 Vulture, 6, 57, **181**.
 Turkey, Wild, 58, 61, **175**.
 Turner, Howard M., 3, 168, 288, 289.
 Turtle head, 48.
 Turtle-dove, 180.
 Tuttle, A. H., 169, 233, 268.
 Twite, 260.
 Tympanuchus americanus, 58, **171**.
 cupido, 58, **172**.
 Tyrannus tyrannus, 12, 16, 28, 55, 63, **223**.

 ULULA caparoch, Surnia, 58, **207**.
 umbellus, Bonasa, 35, 46, 50, 54, 59, 61, **171-174**.
 Underwood, William Lyman, 155.
 Union Boat House, 97.
 Upland Plover, 32, 61, 163, **166**.
 Upper Austral Zone, 59.
 Mystic Pond, 9, 85, 327.
 Uria lomvia, 57, 61, **89**.
 troile, 90.
 urubu, Catharista, **397**.
 Usnea Warbler, **328**.
 usnea, Compsothlypis americana, 17, 56, **328**.
 ustulata swainsoni, Hylocihla, 18, 57, **387**.

 VALLISNERIA, Aythya, 41, 57, **114**, 117, 118, 152.
 Vancouver, Fort, 76.
 varia, Mniotilta, 17, 55, **318**.
 varium, Syrniun, 54, **197**, 397.
 varius nuchalis, Sphyrapicus, 58, **214**.
 Sphyrapicus, 16, 56, 210, **213**, 214.
 Vassall Lane, 11, 19, 37, 49, 111, 152, 155, 156, 164-166, 225, 239, 243, 267, 269, 338.
 Veazie, W., 72, 73, 142, 150, 172, 237.
 Veery, **384**.
 velox, Accipiter, 18, 56, **183**, 321.
 vermivorus, Helmitheros, 58, **321**.
 versicolor, Quiscalus, 22.
 Very, Jones, 82.
 Vesper Sparrow, 55, 234, **267**, 270, 281.
 vespertina, Hesperiphona, 58, **251**.
 Vickary, N., 142, 222, 306.
 vigorsii, Dendroica, 21, 23, 27, 28, 35, 55, 61, **343**.
 villosus, Dryobates, 15, 56, 59, 63, **210**, 211, 398.
 leucomelas, Dryobates, 398.
 Vine Brook, 51.
 violacea, Nyctanassa, 57, **141**.
 virens, Contopus, 12, 16, 22, 25, 28, 55, **228**, 320.
 Dendroica, 17, 55, 320, **337**, **341**.
 Icteria, 55, 59, 61, 64, **355**.
 Vireo, Blue-headed, 4, 14, 15, 56, 59, 61, **315**.
 Philadelphia, 58, **312**.
 Red-eyed, 13, 15, 21, 25, 27, 28, 55, **311**, 312, 320.
 Solitary, 4, 14, 59, 61, **315**.
 Warbling, 13, 15, 21, 25, 27-29, 55, **313**, 315.
 White-eyed, 52, 53, 55, **317**.
 Yellow-throated, 13, 15, 21, 25, 28, 55, **314**, 316, 320.

- Vireo flavifrons*, 13, 15, 21, 25, 28, 55, **314**, 316, 320.
gilvus, 13, 15, 21, 25, 27-29, 55, **313**, 315.
novboracensis, 52, 53, 55, **317**.
olivaceus, 13, 15, 21, 25, 27, 28, 55, **311**, 312, 320.
philadelphicus, 58, **312**.
solitarius, 4, 14, 15, 56, 59, 61, **315**.
virescens, *Butorides*, 12, 32, 46, 48, 49, 55, 61, 79, **136**, 139.
Virginia juniper, 26, 195, 226, 230, 235, 236, 252, 255, 288, 308, 342, 346.
Rail, 45, 46, 49, 50, 55, 143, **145**, 147, 149.
virginiana, *Juniperus*, 27.
virginianus arcticus, *Bubo*, 204, 205.
Bubo, 46, 58, 61, 63, **202**, 204.
Chordeiles, 16, 56, **219**, 221.
Colinus, 35, 50, 54, 59-61, **170**, 172-174, 180.
occidentalis, *Bubo*, 204, 205.
pacificus, *Bubo*, 204, 205.
pallescens, *Bubo*, 204, 205.
Rallus, 45, 46, 49, 50, 55, 143, **145**, 147, 149.
subarcticus, *Bubo*, 5, 58, **203**.
viridissima, *Agyrrhia*, 58, **222**.
Visitors, accidental, 57.
 occasional, 57.
 transient, 4.
Vivian, William H., 130.
vociferus, *Anrostomus*, 16, 55, **218**.
Oxyechus, 57, **167**.
Vulture, Black, **397**.
 Turkey, 6, 57, **181**.
- WAKEFIELD, 148.
 Walcott, R., 127.
 Walker, Miss —, 114.
 Waltham, 8-10, 51, 66, 90, 91, 106, 109, 113, 114, 119, 129, 130, 136, 155, 166, 169-171, 176, 178, 181, 182, 184, 187, 188, 197, 200, 203-205, 210, 211, 216, 218, 224, 225, 228, 229, 236, 238, 245, 255, 257-260, 264, 270, 278, 282, 284, 286, 293, 294, 297, 299, 302-304, 307, 309, 312, 315, 316, 318, 322-324, 327, 328, 330, 332, 335, 337, 340, 341, 343, 346, 348, 353, 362, 364, 367, 369, 375, 378, 383, 391-393, 395, 397, 398.
wapacuthu, *Asio magellanicus*, 205.
Warbler, Audubon's, 58, **334**.
 Bay-breasted, 17, 56, **338**.
 Black and White, 17, 55, **318**.
 Black and Yellow, 52, **335**.
 Blackburnian, 17, 56, 59, 61, **340**.
 Black-poll, 17, 52, 56, 328, **339**, 351.
 Black-throated Blue, 17, 56, **332**.
 Green, 17, 55, 320, 337, **341**.
 Blue Yellow-backed, **328**.
 Blue-winged, 58, **322**.
 Yellow, **322**.
 Canada Fly-catching, 358.
 Canadian, 18, 52, 57, 59, 61, **358**.
- Warbler*, Cape May, 56, **329**.
 Chestnut-sided, 17, 55, **336**.
 Connecticut, 48, 57, 59, **350**.
 Golden, **331**.
 Golden-winged, 53, 55, **322**.
 Hooded, 58, **356**.
 Magnolia, 17, 52, 56, **335**.
 Mourning, 17, 57, **352**.
 Myrtle, 17, 52, 56, 325, **333**, 340, 345.
 Nashville, 17, 53, 55, 320, 321, **323**, 326, 336.
 Northern Parula, 17, 56, **328**.
 Orange-crowned, 17, 57, 59, **324**, 332.
 Palm, 57, **344**.
 Pine, 21, 23, 27, 28, 35, 55, 61, **343**.
 Pine-creeping, 21, 27, **343**.
 Prairie, 55, **346**.
 Redpoll, **344**.
 Tennessee, 58, **327**.
 Usnea, **328**.
 Wilson's, 18, 52, 57, **357**, 358.
 Worm-eating, 58, **321**.
 Yellow, 13, 15, 21, 25, 28, 29, 49, 51, 55, 63, 240, 325, **331**, 337, 354.
 Yellow Palm, 17, 56, 334, **345**.
 Yellow Redpoll, 334, **345**.
 Yellow-rumped, **333**, 334.
Warbling Vireo, 13, 15, 21, 25, 27-29, 55, **313**, 315.
 Ware, Frederick, 262.
 Wareham, 191, 239.
 Warren Run, 155, 178, 260.
 Washington, D. C., 239.
 Water hen, 148.
 lily, white, 47.
 yellow, 47.
Water-Thrush, 17, 52, 56, **349**, 398.
 Louisiana, **398**.
 Northern, 52, **349**, 398.
 Watertown, 8, 10, 33, 66, 71, 72, 92, 96, 119, 125, 159, 173, 174, 176, 185, 187, 193, 194, 201, 216, 220, 225, 227, 229, 233, 238-242, 244, 247-249, 263, 265, 270, 279, 280-284, 286, 289, 294, 296, 298, 299, 301-304, 306, 308, 311, 313, 315, 319, 327, 332, 334, 335, 338, 339, 343, 345, 357, 367, 378, 384.
 East, 116, 166, 214, 327, 330, 368.
 Watertown Arsenal, 31, 34, 88, 92, 116, 126, 158-161, 169, 170, 186, 215, 235, 255, 265, 285, 294, 297, 327, 349.
 Branch (Railroad), 43, 47, 48, 312.
 Watrous, C. H., 342.
 Waverley, 8, 52, 154, 155, 167, 170, 171, 193, 203, 208, 213, 215, 227, 228, 231, 240, 255, 262, 267, 279, 281, 286, 289, 297-299, 304, 322, 323, 330, 334, 337, 341, 342, 346, 348, 353, 360, 364, 365, 367, 369, 375, 378, 379, 381-384, 387, 389, 391, 395.
 Waverley Oaks, 52-53, 112, 147, 179, 193, 372.
 Waxwing, Bohemian, 58, **306**.
 Cedar, 13, 15, 25, 27, 28, 35, 54, 60, **307**, 385.

- Wayland, 99, 101, 148, 328.
 Welch, George O., 212.
 Wellesley, 8, 250, 251, 281, 364, 380, 396, 398.
 Wellesley Hills, 254, 383.
 Wellfleet, 251.
 Wellington Hill, 9.
 Wells, Henry C., 196.
 Wendell Street, 291.
 Wendte, W., 130.
 Wenham Lake, 107, 128.
 Wessagussetus, 70.
 Wessagussett, 70.
 Wessagussetus, 71.
 West Boston Bridge, 30, 31, 85, 118, 119, 124,
 154, 159, 160, 265.
 Brook, 149.
 Cambridge, 148, 295.
 Dedham, 91, 199.
 Medford, 86, 121, 212.
 Newton, 228, 251, 310.
 Roxbury, 251, 322.
 Somerville, 207.
 Westford, Conn., 173.
 Weston, 8, 129, 130, 178, 181, 185, 297.
 Weymouth, 70, 71, 190.
 Whip-poor-will, 16, 55, **218**.
 Whistler, 30, 36, 41, 60, 61, 101, **118**, 120.
 Whistling Swan, 57, **129**.
 White azalea, 47.
 clover, 168.
 Ibis, 131.
 oak, 24.
 swamp, 24, 47.
 pine, 19, 20, 23, 24, 34, 45, 46, 48, 139,
 140, 184, 195, 197, 198, 202, 212, 249,
 341-343, 346, 379.
 water lily, 47.
 willow, 312, 357.
 White, F. B., 181.
 White, Mary Abby, 376.
 White-bellied Nuthatch, 319, **374**.
 Swallow, 26, **303**.
 White-breasted Nuthatch, 15, 19, 25, 28, 35,
 54, 59, 200, 319, 373, **374**, 376.
 White-crowned Sparrow, 56, **276**, 326.
 White-eye, **317**.
 White-eyed Vireo, 52, 53, 55, **317**.
 White-rumped Shrike, **310**.
 White-throated Sparrow, 16, 56, 60, 276, **277**.
 White-winged Coot, **123**.
 Crossbill, 35, 56, 59, **257**, 259.
 Gull, **93**.
 Scoter, 36, 39, 40, 57, 60, 116,
 121, **123**.
 Whiting, Frank, 330.
 Whitman, C. O., 178.
 Whittemore, O. W., 85.
 Whittemore Point, 26, 33, 135, 158, 159, 169,
 269, 273, 275.
 Whooping Crane, 58, **142**.
 Widgeon, American, **107**.
 Widmann, O., 392.
 Wild Goose, 128.
 Pigeon, 61, **176**, 180.
 Rice, 43, 148, 243.
 Wild Turkey, 58, 61, **175**.
 Willard, Mrs. Lucy, 82.
 Williams, Samuel, 142.
 Willow, white, 312, 357.
 'Willows,' 296.
 Wilson, Alexander, 79, 80, 323.
 Wilsonia canadensis, 18, 52, 57, 59, 61, **358**.
 mitrata, 58, **356**.
 pusilla, 18, 52, 57, **357**, 358.
 wilsonianus, Asio, 54, **195**.
 Wilson's Blackcap, 52, **357**.
 Petrel, 99.
 Snipe, 19, 32, 38, 46, 49, 51, 56, 60, **156**,
 159, 196.
 Tern, **98**.
 Thrush, 18, 21, 55, **384**.
 Warbler, 18, 52, 57, **357**, 358.
 Winchendon, 381.
 Winchester, 9, 174.
 Winchester place, 235.
 Winship, E. B., 99, 236.
 Winship farm, 236.
 Winslow, Edward, 70.
 Winter residents, 4, 56.
 Wren, 57, **369**.
 Yellow-leg, **162**.
 Winthrop, John, 70, 173.
 Woburn, 212, 236.
 Wollaston, 128, 142, 175.
 Mount, 70, 71.
 Wood Duck, 36, 37, 40, 43, 45, 46, 49, 53, 56,
 61, 79, 83, 106, **111**.
 Pewee, 12, 16, 22, 25, 28, 55, **228**, 320.
 Thrush, 18, 55, **383**.
 Wood, William, 69, **71-73**, 126-130, 142, 172,
 175, 176, 180, 222, 237.
 Woodbine, 24.
 Woodbridge Island, 130.
 Woodcock, 23, 45, 48, 53, 61, 154, 155, 260, 380,
 391.
 American, 23, 45, 48, 53, 55, 61, **154**,
 260, 380, 391.
 Woodman, Walter, 3, 20-23, 154, 287, 343, 348,
 360, 375, 385.
 Woodpecker, Arctic Three-toed, 58, **212**.
 Black-backed Three-toed, **212**.
 Downy, 15, 22, 28, 35, 53, 54, 59, 210,
 211, 238, 319, 320, 373, 376.
 Golden-winged, 23, **217**.
 Hairy, 15, 56, 59, 63, **210**, 211, 398.
 Phillips's, **398**.
 Red-headed, 58, **214**.
 Three-toed, 381.
 Yellow-bellied, **213**.
 Worcester, 264.
 Worcester County, 166, 188.
 (Joseph E.) estate, 209, 249.
 Worm-eating Warbler, 58, **321**.
 Wren, Carolina, 58, 59, 61, 292, 362, **366**.
 Golden-crested, **381**.
 House, 13, 18, 21, 26-28, 35, 53, 55, 61,
 66-68, 256, 304, **367**, 395.
 Long-billed Marsh, 45, 46, 49, 50, 55, 60,
 61, **371**.
 Short-billed Marsh, 45, 52, 55, **370**.

- Wren, Winter, 57, **369**.
 Wren Orchard, 53, 156.
 Wright, H. G., 115, 379.
 Wyeth, N. J., 75, 76, 115.
 Wyman, Morrill, 229, 238, 378.
- XANTHOCEPHALUS xanthocephalus*, 58, **241**.
- YARMOUTH, South, 181.
 Yellow birch, 45, 46.
 Palm Warbler, 17, 56, 334, **345**.
 Rail, 57, **147**, 150.
 Redpoll Warbler, 334, **345**.
 Warbler, 13, 15, 21, 25, 28, 29, 49, 51, 55,
 63, 240, 325, **321**, 337, 354.
 water lily, 47.
 Yellow-bellied Flycatcher, 16, 56, **229**.
 Sapsucker, 16, 56, 210, **213**, 214.
 Woodpecker, **213**.
 Yellow-bill, **207**.
 Yellow-billed Cuckoo, 12, 14, 22, 28, 35, 55, 184,
 207, 208.
 Yellow-bird, **261**.
 Summer, 21, **331**.
 Yellow-breasted Chat, 55, 59, 61, 64, **355**.
 Yellow-crowned Night Heron, 57, **141**.
 Yellow-hammer, **217**.
 Yellow-headed Blackbird, 58, **241**.
 Yellow-leg, Summer, **163**.
 Winter, **162**.
 Yellow-legs, 32, 49, 57, 61, 161, **163**.
 Greater, 32, 56, **162**.
 Lesser, 61, **163**.
 Yellowrump, 52, 325, **333**, 340, 345.
 Yellow-rumped Warbler, **333**.
 Yellow-shouldered Sparrow, 271.
 Yellow-throat, Maryland, 46, 49, 51, 354.
 Northern, 18, 46, 49, 51, 55, **354**.
 Yellow-throated Virco, 13, 15, 21, 25, 28, 55,
 314, 316, 320.
 Yellow-winged Sparrow, **270**, 296.
 York, Me., 70.
 Yucatan, 81.
- ZAMELODIA ludoviciana*, 15, 22, 25, 28, 55, 61,
 67, **293**.
 Zappay, W. R., 136.
 Zenaidura macroura, 57, 178, **179**.
 zibethicus, Fiber, 37, 43, 49, 50.
 Zizania aquatica, 146.
 Zonotrichia albicollis, 16, 56, 60, 276, **277**.
 leucophrys, 56, **276**, 326.

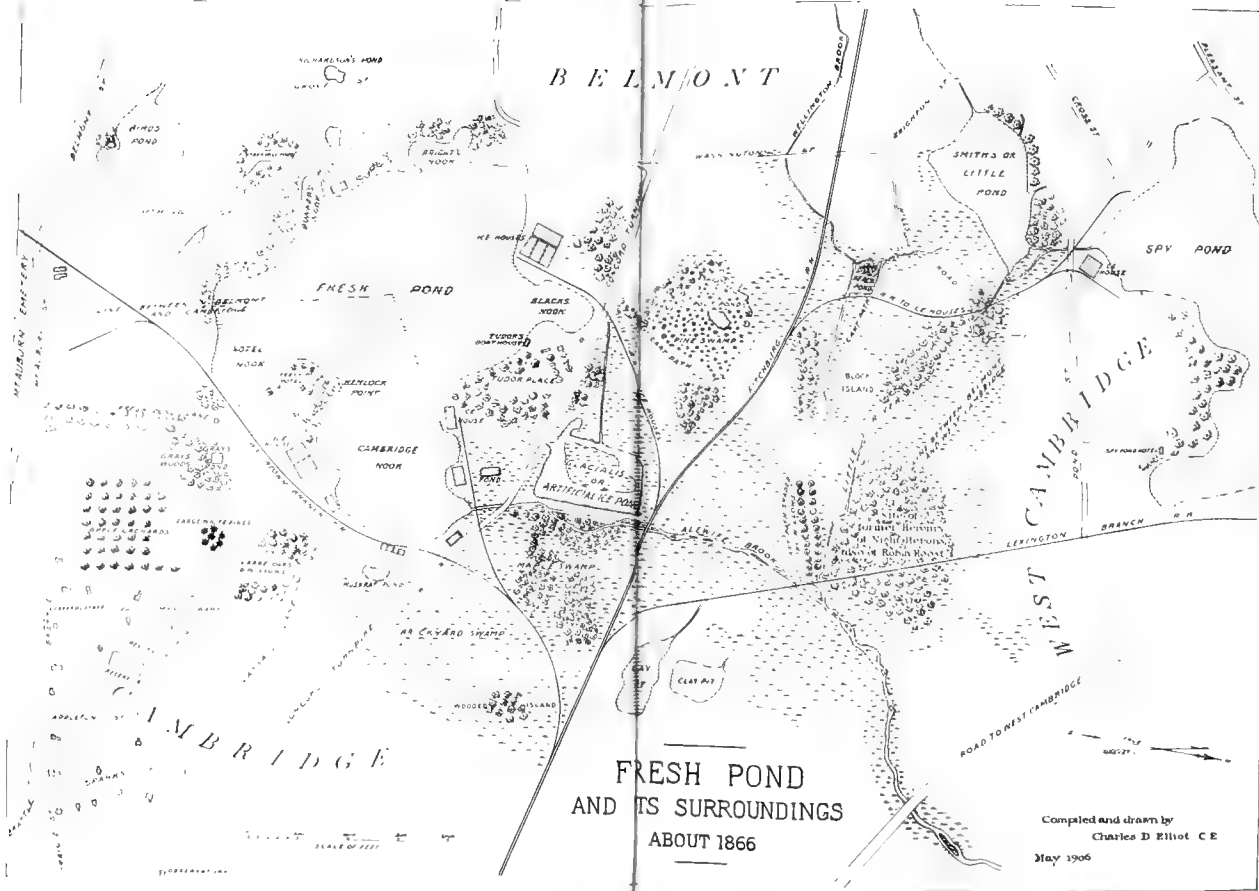
ERRATA.

- Page 32, line 16, for Soldier's Field read Soldiers' Field.
 " 97, " 26, " Morris read Maurice.
 " 118, " 7, " Charles River Basin read Back Bay Basin.
 " 154, " 30, " 1870 read 1874.

BELMONT

FRESH POND AND ITS SURROUNDINGS ABOUT 1866

EAST CAMBRIDGE



Compiled and drawn by
Charles D Elliot C E
May 1906

Publications of the Nuttall Ornithological Club.

MEMOIRS. No. I. BIRD MIGRATION, by *William Brewster* \$.50

No. II. THE IPSWICH SPARROW (*Ammodramus princeps* Maynard) AND ITS SUMMER HOME, by *Jonathan Dwight, Jr., M. D.* (Colored plate) . . 1.50

No. III. THE BIRDS OF ESSEX COUNTY, MASSACHUSETTS, by *Charles Wendell Townsend, M. D.* One plate and map. (Paper, \$2.00) cloth, 2.50

No. IV. THE BIRDS OF THE CAMBRIDGE REGION OF MASSACHUSETTS, by *William Brewster.* Four plates and three maps. (Paper, \$2.00) cloth, 2.50

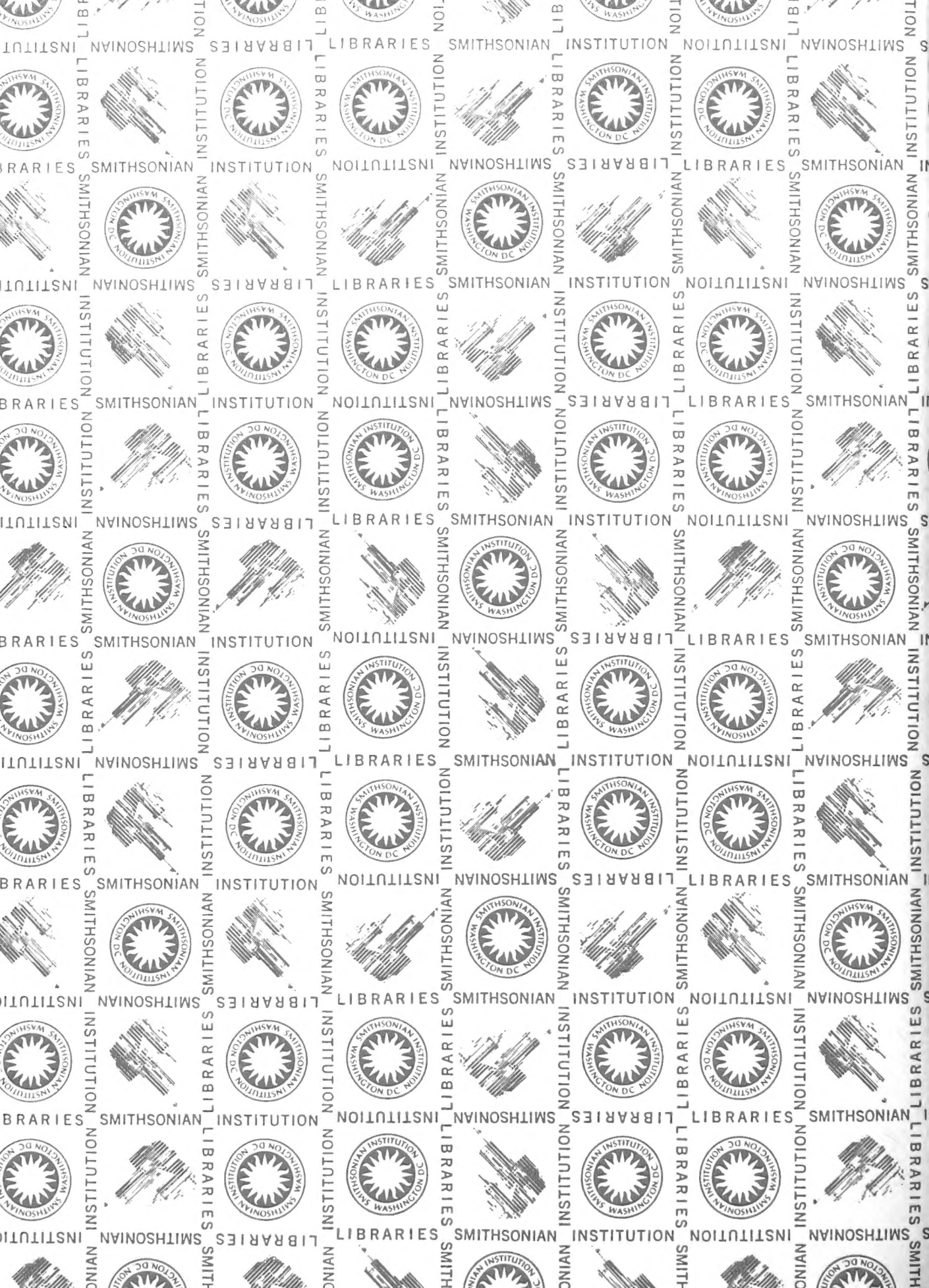
BULLETIN. VOLUMES I-VIII, 1876-83. A few complete sets . . . \$20.00

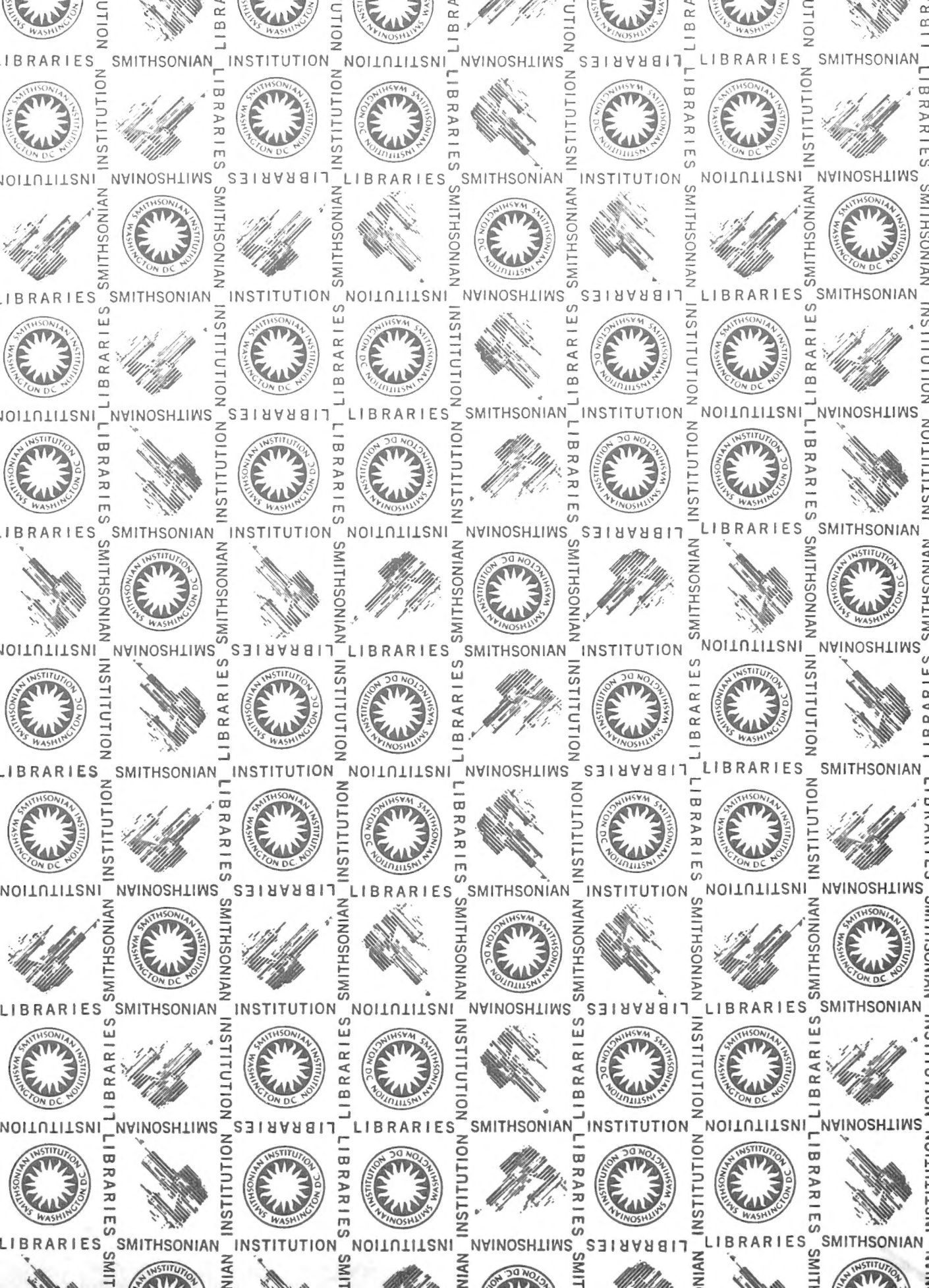
In these sets two numbers long out of print have been replaced in absolute facsimile by a photographic process affording a reproduction almost indistinguishable from the originals.

Also single numbers from these volumes (with a few exceptions) . . .50

The above may be had from the *Treasurer*, CHARLES F. BATCHELDER, CAMBRIDGE, MASS.







SMITHSONIAN INSTITUTION LIBRARIES



3 9088 00084 2740