

This is the first recorded capture for our county and less than half-a-dozen have been made in eastern Pennsylvania.

TENNESSEE WARBLER, *Helminthophila peregrina*.—An immature female secured September 19, 1891.

CAPE MAY WARBLER, *Dendroica tigrina*.—On May 11, 1895, I observed a perfect male in a sassafras bush close at hand, a favorable opening gave me an excellent view and I noted every marking that was particularly rich in appearance. A moment for observation, another for it to get a little further from the end of my little 38 caliber collecting gun, a defective cartridge, and it was away before I could reload. It proved to be the find of the year.

RED-BREASTED NUTHATCH, *Sitta canadensis*.—I took a male of this species October 15, 1889, my only record.

I also desire to record the occurrence of the following rare species, in Newtown township, Delaware county, Pa.

CERULEAN WARBLER, *Dendroica cerulea*.—I secured an immature female from some beech timber September 24, 1889, but unfortunately shot it too badly for preservation entire.

FRANK L. BURNS, *Berwyn, Penna.*

THE BIRD CENSUS.

OBERLIN, OHIO.

There could hardly have been a more favorable winter day for taking the census of the birds of Oberlin than the 28th day of December, 1897. The sky was clear, saving a few fleecy clouds in the morning, the temperature ranging from 18° in the morning to 36° at noon; the air still. Just sharp enough to give zest to out-door life without discomfort; just bright enough to give activity to the birds.

At eight o'clock in the morning Mr. W. L. Dawson and the writer prepared to take the bird census of Oberlin within a three-quarter mile limit of the center, excluding one natural grove and two open fields within this limit because they would not fairly represent the true village bird life. It is hardly necessary to say that we were not able to cover the whole ground laid out. However, by hard work we managed to take a fairly accurate census of two-thirds of it. For the benefit of any who may wish to consult the map of the town in BULLETIN 16, I will say that the

only parts of town which we did not go over are: that part which lies south of Plum Creek east of South Professor Street, except the east edge of Professor Street; and the college campus and the greater part of the block immediately north of it. The business part of the town I do not mention, because it could hardly be reckoned in the census.

A hint of our method may not be amiss here. The English Sparrow was excluded, for obvious reasons, and only native wild birds counted. Every individual was carefully recorded on the map in the situation in which it was first seen; by symbols previously agreed upon. In our effort to allow no bird to escape our notice we worked together closely enough to be within easy call for the most part, one scanning the trees on each side of the street, the other skirting back yards and inter-street orchards and shade trees, except when such were too extensive for one to do thoroly, when the street and the middle of the block were worked separately.

The element of repeating records seems, on first thought, to be a serious one. But after we had recorded the occupation of a number of the birds—getting breakfast—this element gave us no further concern. It is very doubtful if half a dozen birds were recorded twice. There was some shifting about, to be sure, but not of sufficient extent to go beyond the bounds of the immediate field of work.

The census revealed the presence of eleven species, one of which, the Horned Lark, was seen only in passing over-head. Below is the list of species with the number of individuals seen.

Downy Woodpecker, 12.	Flicker, 2.
Horned Lark, 3.	Blue Jay, 15.
American Goldfinch, 11.	White-breasted Nuthatch, 1.
Chickadee, 4.	Tree Sparrow, 17.
Pigeon Hawk, 1.	Junco, 7.
Bronzed Grackle, 1.	Total individuals seen, 74.

At this rate the village could boast about a hundred native wild birds within the three-quarter mile limit, and probably three times that many within the city limits proper, since three natural groves, three large open fields and Westwood Cemetery are included within the limits.

The Tree Sparrows were seen in brushy and weedy vacant lots in companies of five and ten (two stray individuals). A company of thirteen individuals noticed in a brushy pasture was outside of the limit set. The Juncos were feeding with the English Sparrows in brushy places, five in one place, two in another, the two and the five Tree Sparrows with English Sparrows. The Blue Jays were promiscuously scattered,

but inclining to be in groups. Their record is : 4, 3, 3, 2, and three singles. The first Goldfinch was with a company of ten Tree Sparrows, then a company of seven in a weedy yard with a Downy Woodpecker, and three feeding near an osage orange hedge-row. These and the Blue Jays, were the most erratic. The Flickers were solitary individuals, widely separated; both were in orchards. The Chickadees and ten of the Downy woodpeckers were in pairs, or more properly doubles. The Chickadees were in shade and ornamental trees; all but one of the Downy Woodpeckers in orchards, and this one was feeding upon weed seeds in a weedy yard with Goldfinches, as stated above. The comradeship of but two individuals, with these two species, was very marked. It was a great disappointment not to find more Nuthatches. This one was in an orchard. The Pigeon Hawk and Bronzed Grackle were undoubtedly more accidental than regular. The Grackle was hiding away in the thick foliage of an evergreen tree.

The entire absence of the Hairy Woodpecker, Song Sparrow and Golden-crowned Kinglet was a great surprise. A further search would probably have revealed them.

Comparing this small number of wild birds with the superabundance of English Sparrows, we are forced to the conclusion that there must be upwards of ten thousand English Sparrows inside of the three-quarter mile limit. In the aggregate this seems a large number, but when we realize that this gives less than twenty to the acre, and that the blocks average more than ten acres each, it does not seem too liberal. The sparrows gave us far more trouble than all else combined, both on account of their constant noise and the necessity of watching each one to be sure it was not some other species.

This super-abundance of sparrows gives at least a suggestion of the reason why the native wild birds are so few. There simply is not room for them, nor food enough for them and the sparrows too. The presence of the Pigeon Hawk, and the occasional appearance of the Sparrow Hawk well within the city limits is pleasantly suggestive. Tree Sparrows are far more numerous outside of town, and English Sparrows are never seen in the country, except about country houses, in winter.

Three distinct difficulties were encountered in making the census, each one of them serious. First and most serious was the Sparrow; second, the noise of passing vehicles, and third, the small boy with his whistle and lusty voice. Such little things as high picket and wire fences, thorny hedge-rows, inquisitive house-keepers, and threatened incarceration as lunatics are not to be considered. They are incidents of the trade.

This bit of experience has taught us that he who would be a successful bird census taker must be possessed of a good supply of patience, a keen sense of the importance of thoroughness, an abundance of "nerve" if his field is a town, and a good pair of legs. The work must be done in one day, of course, so that the shifting about of the birds will be reduced to its lowest terms. This census taking, if given as much attention as the note taking which every lover of the birds indulges in during the Spring, will fill in the usual Winter blank with notes second to none in point of interest. Try it!

There is another sort of Winter work, closely allied to the census taking, which is less arduous, perhaps, but almost as interesting and profitable. It is what Mr. Dawson has aptly termed the "CENSO-HORIZON." It consists of making a record of each bird seen during a walk about town or during a more or less extensive excursion into the surrounding country. No attempt is made to cover any prescribed area. It has been my privilege to make several such censo-horizons during the present winter, twice in company with Mr. Dawson. Allow me to say here that two persons, provided both are equally interested in the birds, are better than one for such work. What one may overlook the other is likely to see.

One of the most extensive of these outings, December 31, 1897, began at 6:30 in the morning when the electric car whirled me toward Lake Erie. A solitary Flicker was the first and only bird seen from the car window. The sleety snow driven by a stiff north-easter, and a temperature of 25°, were probably responsible for the scarcity of birds. Before night-fall the temperature had reached 16° with gusts of sleety snow at short intervals. After the car left me in sight of the roaring breakers, my route lay along the lake beach (for a fringe of several rods of pack-ice held the waves back) for about four miles. Here I saw nine Am. Herring Gulls, three Mallards and one Sharp-shinned Hawk, all in earnest quest of food. After beating about in the marshes until satisfied that they were inhabited by no other species than Tree and Song Sparrows and Junco, my homeward tramp of fifteen miles began. It lay along the valley (narrow for the most part) of a small stream—Beaver Creek. This narrow valley is well wooded, and its sides are steep; hence it is an ideal refuge from the fierce winter storms. I need not give in detail the bird life of the valley on that day, but only summarize the results. First I should mention the flock of nine Horned Larks seen coming across the lake just before the start for home.

In all, sixteen species and 162 birds. Not an English Sparrow was seen during the whole trip! The Woodpeckers, Nuthatches and Chickadees were in pairs.

Bob-white, 7.	Chickadee, 8.
Hairy Woodpecker, 2.	Tree Sparrow, 90.
Downy Woodpecker, 6.	Junco, 10.
Flicker, 2.	Sharp-shinned Hawk, 1.
Goldfinch, 3.	American Herring Gull, 9.
Song Sparrow, 5.	Mallard, 3.
Cardinal, 3.	Blue Jay, 1.
White-breasted Nuthatch, 6.	Total, 162.
Tufted Titmouse, 6.	

Compare this with a trip across the country some ten miles and back in company with Mr. Dawson, on January 4, 1898. The day was perfect. A clear sky, bright sun, almost bare earth, and scarcely a breath of air from the south-west until noon, and then only a light breeze. Our objective point was a narrow gorge of Chance Creek which boasts a liberal growth of evergreen trees, besides the other native trees, shrubs and bushes. The start was made at 6:45 in the morning, and the return was accomplished at 6:00 in the evening. On this trip we recorded eighteen species and 208 birds. The detailed record follows.

Blue Jay, 3.	Song Sparrow, 1.
Chickadee, 14.	Red-billed Woodpecker, 2.
White-breasted Nuthatch, 21.	Bald Eagle, 1.
Hairy Woodpecker, 10.	Pigeon Hawk, 1.
Downy Woodpecker, 4.	Red-shouldered Hawk, 1.
Flicker, 2.	Am. Rough-legged Hawk, 1.
Tree Sparrow, 109.	Ruffed Grouse, 4.
Goldfinch, 17.	Golden-crowned Kinglet, 6.
Tufted Titmouse, 6.	Total, 208.
Junco, 5.	

Let me again urge all who can do so to try this sort of winter study.

LYNDS JONES, *Oberlin, Ohio.*

SAINT JOSEPH, MISSOURI.

I had only time to go along a road near town for about a quarter of a mile. It was bordered on one side by a small, poorly made hedge, beyond which ran a small stream then frozen over and fringed with bushes