

saying it is useless to attempt it in the fall. On this point, however, the evidence which I have collected from most local authorities on the subject tends to reverse his conclusion; as it is generally admitted that the very best time for transplanting these trees is in the end of May or beginning of June—just when the young shoots, having broken their capsules, are conspicuous by their new bright-green colour. The plant now seems to be full of energy, and will adapt itself to circumstances in order to continue its efforts more quickly than when partially dormant. Very early in the season is perilous, as the Fir having so large an amount of evaporating surface is more apt to receive injury from the cold drying wind of early spring than deciduous trees. Spruces should be placed in the ground with their long diverging roots as near the surface as possible, merely placing around them the upturned sod.

Planting by seed is the usual plan for growing evergreens in the English and Scotch nurseries. The young plants have excellent roots, and are much more easily removed. The success of the Fir plants which have come over to this country is very noticeable, and the Norway Spruces on the Common, the Scotch Firs and Larches in the Cemetery and Horticultural Gardens, are much more forward than any of our indigenuous transplants. These trees appears to thrive admirably in this country: the English Larch is now everywhere in blossom, (May 7th,) with budding foliage, whilst our own species still seems wrapped in its winter sleep; the leading shoots of last season's growth on the Norway Spruce are nearly a yard in length, when the indigenous transplant rises but a few inches.

ART. XIII. ON THE LAND BIRDS OF NOVA SCOTIA. BY A. DOWNS, *Cor. Memb. Zool. Soc. of London.*

[*Read May 3, 1866.*]

HAVING in my last paper completed the list of the Birds of Nova Scotia as far as the warblers, I now proceed with the wrens, creepers, sparrows, &c; but as our Institute has an abundance of matter for insertion in the next number of Transactions, I will not trespass too much by making this paper a lengthy one, but will reserve my additional remarks for next session, when, if life and health be spared me, I hope to complete the whole of the land birds.

I wish to remark, however, in regard to my last paper, that as European naturalists have been misled by my having given our barn swallow as *Hirundo rustica*, it would probably be better to insert Wilson's specific name *Americana* instead. Most of the European and American birds are perfectly distinct, although some authors have given them a similar name, and without thought I repeated the error.

BLACK AND WHITE CREEPER—(*Certhia varia*).—This pretty little bird with its black and white streaked plumage so clearly defined, is somewhat abundant, and generally observed in company with the warblers and arriving about the same time. Its nest is very difficult to find.

BROWN CREEPER—(*Certhia familiaris*).—This bird which is considered to be identical with the European Brown Creeper is by no means abundant. I have shot specimens in the vicinity of Grand Lake, that famous locality for birds of all kinds, and have also seen it once on my own property in the village. I think it breeds about Grand Lake.

WINTER WREN—(*Troglodytes hyemalis*).—Nearly always found inland. I have seen it about Grand Lake, and in the neighbourhood of Kentville, but never about Halifax. This bird has a very powerful song taking into consideration its small size, and at times makes the forest ring with its pleasing note. It is solitary in habit, and, unlike some of the wrens which court the society of man, appears to shun it. You may see it in some secluded part of the forest, hopping about old fallen tree trunks and endeavouring to screen itself from observation.

RUBY CROWNED WREN—(*Regulus calendula*).—This is not a common bird, and partakes of the habits of the former species in keeping away from cultivation, and in power of song. I have shot a specimen in Byer's swamp in the village.

AMERICAN GOLD CREST—(*Regulus satrapa*).—This nimble little bird is a constant resident in the Province. It breeds in the denser parts of the forest. In winter time when all nature appears to be in a deep sleep the gold-crest and the black-cap-tit flit from tree to tree in search of insect life, scanning the cracks and crevices, from which they appear to obtain enough for their support.

BLACK-CAP-TIT—(*Parus atricapillus*).—Very common in win-

ter time. It breeds in the Province in holes of trees. I once observed one in the act of taking some sheep's wool for its nest. The wool was beneath a stick on the highroad, and the bird was endeavouring to collect all the wool, which it did by carding it out and surrounding its whole head with a perfect ball of the fuzzy material. Country people say, that when he cries "sweet weather, sweet weather," a storm is brewing. It is commonly known as the "chick-a-dee" from its oft repeated note, which sounds like the words "chick a dee dee dee". It delights to feast on fat of any kind, and I saw it light upon candle moulds set out to cool and pick out the grease. I once saw one enter a good sized marrow bone and disappear entirely in the hollow within. It becomes very tame when fed from a window, and during the past hard winter Mrs. R. G. Fraser, had a perfect flock of black-cap-tits and other birds, which regularly came to be fed night and morning.

HUDSON'S BAY TIT—(*P. Hudsonicus*.)—Although similar in habit to the preceding species it is not so common, but may occasionally be seen in company with it. It breeds in Nova Scotia.

SOLITARY VIREO—(*Vireo solitarius*.)—This rare bird is almost unknown to me, although I believe it breeds in some parts of the Province.

WARBLING VIREO—(*V. Gilvus*.)—Common. It breeds about the village, generally on the slopes of the hills among the birch groves.

BLUE BIRD—(*Gialia Wilsonu*.)—This handsome bird is only occasionally seen here, being out of its usual latitude so far north. I once saw four on a willow tree near Kidston's house, and got a box and fixed it up like they do in the United States, but they never took possession.

CEDAR BIRD, OR WAXWING—(*Bombycilla Carolinensis*.)—Generally appears here about the first day of June when the apple blossoms are out. It feeds upon fruit and insects, and is a fearless bird allowing a person to come close to it. It breeds in the village, a boy having brought me a nest taken near the church school house.

BOHEMIAN WAXWING.—This bird occurred here in the winter of 1864-5. A flock was seen near the Three Mile House, and Mr. Bellis shot some specimens. This is the only instance on record of its appearance in the Province so far as I know.

SONG SPARROW—(*F. melodia.*)—This is the most common species we have. It breeds about clearings, making a nest on the ground, in which it lays four blotched eggs. In habit it resembles the wren, hopping about faggot heaps and jerking its tail up and down: indeed I may say it supplies the place of the English wren in Nova Scotia. A few stop all winter, and I have heard them singing in February, in the Hon. Edward Kenny's garden in the city. Some I have in confinement sing at night. Boys call it "Spring Bird." Its note sounds like "chink, chink, chol vo ree: old Bill Pickett sha'nt have me."

WHITE-THROATED SPARROW—(*F. Pennsylvanica.*)—Its welcome note to the fisherman on the lakes is first heard about the end of April. It builds its nest in tufts of ground juniper in low spots, and lays four eggs. I once heard the cry of this bird in distress making a pitiful noise, and on arriving at the spot saw a red squirrel with a young sparrow in his mouth. I threw a stone at him and he let go his prize, when I found that he had eaten its head off. This squirrel will also rob the nests of the migratory thrush, taking eggs and young. This bird from its note is called "Poor Kennedy's Bird."

BAY-WINGED SPARROW—(*Emberiza graminea.*)—This is a very rare species. Capt. Blakiston and I had great work trying to get a specimen.

CHIPPING SPARROW—(*E. socialis.*)—This bird appears to become more common every year as the country becomes cleared. In the United States it is very common, hopping about the roads in the city parks and other frequented places, almost under the feet of passers by. It breeds in this Province in evergreen trees, a pair or so at my place; in the States it builds in the cedar; it is only of late years I have seen this bird about Halifax.

TREE SPARROW—(*E. Canadensis.*)—This is one of the birds which visit us only in winter, when it may be seen on the snowy roads picking at horse droppings. As spring advances it leaves us for the far north, where removed from danger it builds its nest and rears its young in security.

SAVANNAH SPARROW—(*E. Savannah.*)—Not a common bird here. It is evidently a ground species, as I have never observed it in a tree. A few breed in the province every year.

SWAMP SPARROW—(*Fringilla Palustris.*)—This is a very rare species, observed but seldom, and I know nothing of its habits.

SNOW BIRD—(*Junco hyemalis.*)—This is probably with the exception of the robin, the most familiar bird in Nova Scotia, being the only one that is seen in our yards and gardens at all times. Some call it the “blue bird” from its slate coloured back. A few stay all winter and come into out-houses to search for food. Some years ago, a pair of these birds made their nest on a beam in an unfinished house, in Lockman street, where a carpenter was continually at work, but his labour did not appear to interfere with their incubation. When a stranger, however, came in, they at once flew off and remained until his departure. They finally hatched their four young ones and took them away. Their usual nest is on the ground, a situation frequently taken advantage of by the spotted snake, (*Coluber sirtalis,*) which frequently makes a meal of the young. I have some in confinement.

SNOW BUNTING—(*E. nivalis.*)—This well known bird arrives with the first snowstorms of winter, and leaves about the beginning of March. The citadel hill is a favourite resort of this northern species, and it appears to prefer the most exposed situations. It has always been a mystery to me where these birds shelter themselves at night, or during a heavy snow storm.

PURPLE FINCH—(*Fringilla purpurea.*)—Very common. It is easily trapped; its appearance and song causing it to be kept in cages. It loses the red plumage in confinement and becomes yellowish. The young birds are grey until the second year, when they assume the mature red plumage. This is the bird called by bird fanciers red linnet and the grey linnet—they are the same.

NORTHERN REDPOLE—(*Linaria borealis.*)—In former years this bird was more abundant than it is now. It visits us in flocks in winter. Mr. J. M. Jones informs me that he has shot this northern bird in winter time in the Bermudas. All go north in spring.

PINE FINCH—(*L. Pinus.*)—A constant resident all the year, plenty in winter. It is a very familiar bird allowing a person to come close to it without showing any fear. One I have in confinement will come and sit on my finger. It feeds principally on the seeds of the *coniferæ*, but in confinement takes common bird seed. W. Winton found a nest in March some years ago with eggs in it, the high winds blew the eggs out of the nest.

INDIGO BIRD—(*Fringilla cyanea.*)—Very rare, only a straggler occurring now and then.

AMERICAN GOLDFINCH—(*Carduelis tristis.*)—This bird is common inland, especially about Truro and Windsor, but is rare in the vicinity of Halifax. It breeds here and a few remain during winter, changing at that season to an olive colour. Its call note is pretty and something like that of a canary.

PINE GROSBEEK—(*Corythus enucleator.*)—Common during the winter, attracting attention by the rose coloured plumage of the male bird. It is very tame, sitting on a bough on the road side while a passenger goes by. Some years ago I shot one of these birds behind Mr. James Forman's house, a female. No sooner had the lifeless body fallen to the ground than the male bird flew down and began to protect it by placing dead leaves around. The scene was so touching that I would never wish to cause its enactment again. Mr. Foreman tells me several of these birds have frequented his garden during the past hard winter. All leave here in spring for the North. I am told it breeds in Newfoundland.

ROSE-BREASTED GROSBEEK—(*Coccovorus ludovicianus.*)—This is a summer bird with us, and both for plumage and song is kept in cages. It is to be found about Mount Thom, near Truro, and also at Pictou, and I am told equally so at Prince Edward Island. We rarely see it about Halifax. It usually frequents hardwood hills, and breeds about Grand Lake, and other parts of the Province that abound with large hard wood trees.

WHITE-WINGED CROSSBILL—(*Loxia leucoptera.*)—During some years it is abundant, while at other times it is rare. It breeds in the Province and feeds on the seeds of the *Coniferæ*. Mr. Henry Piers assures me that he has found a nest of this bird with young in it in midwinter, it was in a hollow tree that was chopped down for fire wood.

COMMON CROSSBILL—(*L. curvirostra.*)—The same description will answer for this species. I may add that it has always been a puzzle to naturalists in what position these birds breed, it is supposed to be identical with the European.

In conclusion, I wish to make a few brief remarks pertaining to the arrival and departure on their migrations, of the various birds which visit our Province.

Nova Scotia is very favourably placed for observers, and I feel confident that if a more extended series of observations in this respect were made, we should become possessed of valuable information now unknown to us. Vast flights of wild fowl pass and repass over this peninsula in spring and autumn, to and from the coasts of Labrador and Newfoundland, and even still farther north; and it would be extremely interesting to ascertain with what precision such arrivals take place each year, and whether an early spring or a late autumn have any particular influence upon such movements. In my humble opinion I am inclined to think that such casual occurrences have little effect upon the feathered tribe, but that they move north at the close of winter and south at its commencement, with great regularity, guided alone by that wonderful instinct which is implanted within them by their Allwise Creator

