

## HARD FARE.

SUCH a winter as was that of 1880-81—deep snows and zero weather for nearly three months—proves especially trying to the wild creatures that attempt to face it. The supply of fat (or fuel) with which their bodies become stored in the fall is rapidly exhausted by the severe and uninterrupted cold, and the sources from which fresh supplies are usually obtained are all but wiped out. Even the fox was very hard pressed and reduced to the unusual straits of eating frozen apples; the pressure of hunger must be great, indeed, to compel Reynard to take up with such a diet. A dog will eat corn, but he cannot digest it, and I doubt if the fox extracted anything more than the cider from the frozen and thawed apples. They perhaps served to amuse and occupy his stomach for the time. The crows appeared to have little else than frozen apples for many weeks; they hung about the orchards as a last resort, and, after scouring the desolate landscape over, would return to their cider with resignation, but not with cheerful alacrity. They grew very bold at times, and ventured quite under my porch, and filched the bones that Lark, the dog, had left. I put out some corn on the wall near by, and discovered that crows will not eat corn in the winter, except as they can break up the kernels. It is too hard for their gizzards to grind. The difficulty, during such a season, of coming at the soil and obtaining gravel-stones, which, in such cases, are really the mill-stones, may also have something to do with it. Corn that has been planted and has sprouted, crows will swallow readily enough, because it is then soft, and is easily ground. My impression has always been that in spring and summer they will also pick up any chance kernels the planters may have dropped. But, as I observed them the past winter, they always held the kernel under one foot upon the wall, and picked it to pieces before devouring it. This is the manner of the jays also. The jays, perhaps, had a tougher time during the winter than the crows, because they do not eat fish or flesh, but depend mainly upon nuts. A troop of them came eagerly to my ash-heap one morning, which had just been uncovered by the thaw, but they found little except cinders for their gizzards, which, maybe, was what they wanted. They had foraged nearly all winter upon my neighbor's corn-crib, and probably their mill-stones were dull and needed re-

placing. They reached the corn through the opening between the slats, and were the envy of the crows, who watched them from the near trees, but dared not venture up.

The general belief among country-people that the jay hoards up nuts for winter use has probably some foundation in fact, though one is at a loss to know where he could place his stores so that they would not be pilfered by the mice and the squirrels. An old hunter told me he had seen jays secreting beech-nuts in a knot-hole in a tree. Probably a red squirrel saw them too, and laughed behind his tail. One day, in October, two friends of mine, out hunting, saw a blue jay carrying off chestnuts to a spruce swamp. He came and went with great secrecy and dispatch. He had several hundred yards to fly each way, but occupied only a few minutes each trip. The hunters lay in wait to shoot him, but so quickly would he seize his chestnut and be off, that he made more than a dozen trips before they killed him. It is a great pity they did not follow him to the swamp and discover where he deposited his booty, and how much he had accumulated.

A lady writing to me from Iowa, says: "I must tell you what I saw a blue jay do last winter. Flying down to the ground in front of the house, he put something in the dead grass, drawing the grass over it, first on one side, then on the other, tramped it down just exactly as a squirrel would, then walked around the spot, examining it to see if it was satisfactory. After he had flown away, I went out to see what he had hidden; it was a nicely shucked peanut that he had laid up for a time of scarcity."

It would seem, therefore, that the jay has the habit of all the crow-tribe, of carrying off and secreting any surplus food it may chance to have, and it is not improbable that these hoardings sometimes help it over the period of winter scarcity.

A bevy of quail in my vicinity got through the winter by feeding upon the little black beans contained in the pods of the common locust. For many weeks their diet must have been almost entirely leguminous. The surface snow in the locust-grove which they frequented was crossed in every direction with their fine tracks, like a chain-stitch upon muslin, showing where they went from pod to pod and extracted the contents. Where quite a large branch, filled with pods, lay upon the snow, it



looked as if the whole flock had dined or breakfasted off it. The wind seemed to shake down the pods about as fast as they were needed. When a fresh fall of snow had blotted out everything, it was not many hours before the wind had placed upon the cloth another course; but it was always the same old course—beans, beans. What would the birds and the fowls do during such winters, if the trees and the shrubs and plants all dropped their fruit and their seeds in the fall, as they do their leaves? They would nearly all perish. The apples that cling to the trees, the pods that hang to the lowest branches, and the seeds that the various weeds and grasses hold above the deepest snows, alone make it possible for many birds to pass the winter among us. The red squirrel, too, what would he do? He lays up no stores like the provident chipmunk, but scours about for food in all weathers, feeding upon the seeds in the cones of the hemlock that still cling to the tree, upon sumac-bobs, and the seeds of frozen apples. I have seen the ground, under a wild apple-tree that stood near the woods, completely covered with the "chonkings" of the frozen apples, the work of the squirrels in getting at the seeds; not an apple had been left, and, apparently, not a seed had been lost. But the squirrels in this particular locality evidently got pretty hard up before spring, for they developed a new source of food-supply. A young bushy-topped sugar-maple, about forty feet high, standing beside a stone fence near the woods, was attacked, and more than half denuded of its bark. The object of the squirrels seemed to be to get at the soft, white, mucilaginous substance (cambium layer) between the bark and the wood. The ground was covered with fragments of the bark, and the white, naked stems and branches had been scraped by fine teeth. When the sap starts in the early spring, the squirrels add this to their scanty supplies. They perforate the bark of the branches of the maples with their chisel-like teeth, and suck the sweet liquid as it slowly oozes out. It is not much as food, but evidently it helps.

I have said the red squirrel does not lay by a store of food for winter use, like the chipmunk and wood-mice; yet in the fall he sometimes hoards in a tentative, temporary kind of way. I have seen his savings—butternuts and black walnuts—stuck here and there in saplings and trees, near his nest; sometimes carefully inserted in the upright fork of a limb, or twig. One day, late in November, I counted a dozen or more black walnuts put away in this manner in a little grove of locusts, chestnuts, and maples, by the road-side, and could but smile at the wise

forethought of the rascally squirrel. His supplies were probably safer that way than if more elaborately hidden. They were well distributed; his eggs were not all in one basket, and he could go away from home without any fear that his store-house would be broken into in his absence. The next week, when I passed that way, the nuts were all gone but two. I saw the squirrel that doubtless laid claim to them, on each occasion.

There is one thing the red squirrel knows unerringly that I do not (there are probably several other things), that is, on which side of the butternut the meat lies. He always gnaws through the shell so as to strike the kernel broadside and thus easily extract it, while to my eyes there is no external mark or indication, in the form or appearance of the nut, as there is in the hickory-nut, by which I can tell whether the edge or the side of the meat is toward me. But, examine any number of nuts that the squirrels have rifled, and you will find they always drill through the shell at the one spot where the meat will be most exposed. It stands them in hand to know, and they do know. Doubtless, if butternuts were a main source of my food, and I were compelled to gnaw into them, I should learn, too, on which side my bread was buttered.

A hard winter affects the chipmunks very little; they are snug and warm in their burrows in the ground and under the rocks, with a bountiful store of nuts or grain. I have heard of nearly a half-bushel of chestnuts being taken from a single den. They usually hole in November, and do not come out again till March or April, unless the winter is very open and mild.

The woodpeckers and chickadees, doubtless, find food as plentiful during severe winters as during more open ones, because they confine their search almost entirely to the trunks and branches of trees, where the latter pick up the eggs of insects and various microscopic tidbits, and where the former find their accustomed fare of eggs and larvæ also. An enamel of ice upon the trees alone puts an embargo upon their supplies. At such seasons the ruffed grouse "buds" or goes hungry; while the snow-birds, snow-bunting, Canada sparrows, goldfinches, shore-larks, and red-polls are dependent upon the weeds and grasses that rise above the snow, and upon the litter of the hay-stack and barn-yard. I have never seen the shore-lark in my locality, and only one season the red-poll; but the former bird has been common the past winter in other parts of New York State. Neither do the deep snows and the severe cold materially affect the supplies of the rabbit. The deeper



the snow the nearer he is brought to the tops of the tender bushes and shoots. I see in my walks where he has cropped the tops of the small, bushy, soft maples, cutting them slantingly as you would do with a knife, and quite as smoothly. Indeed, the mark was so like that of a knife that, notwithstanding the tracks, it was only after the closest scrutiny that I was convinced it was the sharp, chisel-like teeth of the rabbit. He leaves no chips, and apparently makes clean work of every twig he cuts off.

The wild or native mice usually lay up stores in the fall, in the shape of various nuts, grain, and seeds, and the frost and the snow-blockade seem to interfere very little with their enjoyment of life. One may see their tracks everywhere in the woods and fields, and by the road-side. Why they gad about so much, having a full larder and a warm nest at home, is a mystery. Doubtless the motive is sociability and the delights of travel. The deer-mouse is much more common along the fences and in the woods than one would suspect. One winter day I set a mouse-trap—the kind known as the delusion trap—beneath some ledges in the edge of the woods, to determine what species of mouse was most active at this season. The snow fell so deeply that I did not visit my trap for two or three weeks. When I did so, it was literally packed full of deer-mice. There were seven in all, and not room for another. Our woods are full of these little creatures, and they appear to have a happy, social time of it, even in the severest winters. Their little tunnels under the snow and their hurried strides upon its surface may be noted everywhere. They link tree and stump, or rock and tree, by their pretty trails. They are not traveling in quest of food,—for they generally have a well-filled granary or nuttery at home,—but evidently for adventure and to hear the news. They know that foxes and owls are about, and they keep pretty close to cover. When they cross an exposed place, they do it hurriedly.

Such a winter as that of 1880-81 probably destroys a great many of our half-migratory birds. The mortality appears to be the greatest in the Border States, where so many species, like the sparrows, robins, blue-birds, meadow-larks, kinglet, etc., usually pass the cold season. A great many birds are said to have

died in New Jersey and Pennsylvania, including game-birds. A man in Chester County saw a fox digging in the snow; on examining the spot, he found half a dozen quails frozen to death. Game-birds and nearly all other birds will stand the severest weather if food is plenty; but to hunger and cold both the hardest species may succumb.

Meadow-larks often pass the winter as far north as Pennsylvania. A man residing in that State relates how, in the height of the severest cold, three half-famished larks came to his door in quest of food. He removed the snow from a small space, and spread the poor birds a lunch of various grains and seeds. They ate heartily and returned again the next day, and the next, each time bringing one or more drooping and half-starved companions with them, till there was quite a flock of them. Their deportment changed, their forms became erect and glossy, and the feeble mendicants became strong and vivacious birds again. These larks fell in good hands, but I am persuaded that this species suffered more than any other of our birds the past winter. In the spring they were unusually late in making their appearance,—the first one noted by me on the 9th of April,—and they were scarce in my locality during the whole season.

Birds not of a feather flock together in winter. Hard times or a common misfortune makes all the world akin. A Noah's ark with antagonistic species living in harmony is not an improbable circumstance in such a rain. In severe weather, when the snow lies deep on the ground, I frequently see a loose, heterogeneous troop of birds pass my door, engaged in the common search for food; snow-birds, Canada sparrows, and goldfinches, on the ground, and kinglets and nut-hatches in the tree above,—all drifting slowly in the same direction,—the snow-birds and sparrows closely associated, but the goldfinches rather clannish and exclusive, while the kinglets and nut-hatches keep still more aloof. These birds are probably not drawn, even thus loosely together, by any social instincts, but by a common want; all were hungry, and the activity of one species attracted and drew after it another and another. "I will look that way too," the kinglet and creeper probably said, when they saw the other birds busy and heard their merry voices.

*John Burroughs.*