

Correspondence.

Coincidence of Charleston Earthquake with a Reported Eruption in the Tonga Group.

To the Editor of the Scientific American:

I would like to call your attention to a reported coincidence, described in a letter in the London *Times* of December last. An interview with captain and crew of a vessel just then arrived at Sydney, Australia, from Tonga Islands, is given. The captain is represented assaying that while lying off the islands on the night of the 31st of August, 1886, he observed a most terrific eruption of a volcano situated on one of them, accompanied by earthquake shocks, and the vessel received showers of dust and ashes. The occurrence on the same night with the Charleston earthquake on this continent is curious, to say the least. The statement might be acceptable to those of your readers interested in seismic disturbances.

P. MAX. FOSHAY.

Beaver Falls, Pa., February 2, 1887.

Incendiary Birds.

To the Editor of the Scientific American:

I write to relate an incident which may be of interest to some of the readers of your valuable paper. There is a bar iron mill, situated in a neighboring town four miles from here, that has been on fire three or four times, in which the English sparrow might be called the incendiary. These sparrows pick up old pieces of cotton waste, which they build in their nests, among the timbers of the roof of the mill, and in every case of the fires above mentioned, these nests were the cause, either from spontaneous combustion or from sparks from the hot iron striking and lodging in the nest. If you could suggest some way of getting rid of the sparrows, I think the manager of the mill would be glad to adopt your plan.

R. W. KEAR.

Pottsville, Pa., February 14, 1887.

Charcoal as Fossil.

To the Editor of the Scientific American:

Perhaps charcoal has not often been observed as occurring naturally with mineral coal, though, as a result of metamorphism, graphite is not uncommon in coal districts.

In a variety of bituminous coal that comes from Tennessee, and that is largely used in this State, there are to be seen along in the cleavage planes films of true charcoal, in varying quantity, but commonly thin. This coal has been coming to us for several years, and all the while I have noticed in it the presence of the charcoal. I have scarcely ever put coal into the fire without making the observation; and there is perhaps not a lump, of size at all considerable, that does not contain these films.

On close examination, I have frequently found that the surface of the films on the broken lumps contains a delicate tracery, closely resembling vegetable impressions. The tracery is not so well marked as a fossil imprint, but not so indistinct as to escape notice.

J. F. B.

Emory College, Ga.

Phosphorescent Birds.

To the Editor of the Scientific American:

In reading of the habits of the wading birds, and particularly of the crane, I do not find that naturalists give any account of their manner of attracting their prey at night. My attention was called to the matter while gigging for fish, by frequently observing dim phosphoric lights appear and disappear along the shore like jack o' lanterns, which I for a long time supposed them to be. On one occasion I fired at such a light, and brought down a large blue crane, on which the phosphoric spots were clearly visible after death. There are two such spots; the larger being high up on the breast and the smaller at the bottom of the breast bone, the bird having power to reveal and conceal them at will. I have since stuffed many of the water walkers, and find that all have the same general arrangement of the feathers, and, as I believe, the same power of lighting up the water to attract the fish. Will some naturalist who is posted on this subject please throw some further light upon it, for the benefit of science?

ISAAC N. WORRALL.

Topeka, Kansas.

Canned Fish, Meats, etc.

A correspondent in British Columbia, who is engaged in the business, gives us the following practical information:

Noticing your reply to a correspondent anent canned goods, I recently opened several cans of salmon that were processed in July of 1879, 1880, 1881, and on comparing them with last season's cans, found it impossible to detect the slightest difference. I hold that if a can is once perfectly sealed, the contents will remain unaltered as long as the metal casing remains intact.

A can will keep if every portion of the contents has been subjected to a temperature of 212° Fah., whether

the air is expelled or not; as my experiments have conclusively proved.

When I first began the business, I was taught that the air unless expelled would cause the contents to deteriorate, and that was the reason the cans were vented. I soon found it was a mistake. The venting is done for the purpose of testing for leaks. A tight can has a sound that cannot be mistaken for a leaky one. If your correspondent boils his fish, flesh, or fowl with the vents open, he will have dry cans for his pains. The vents must be closed when cooking, and opened, in the case of meats, after boiling one hour, then closed and returned to kettle, and boil three hours for fish and less for meat without bone. Fruit is vented and closed when finished.

S. H.

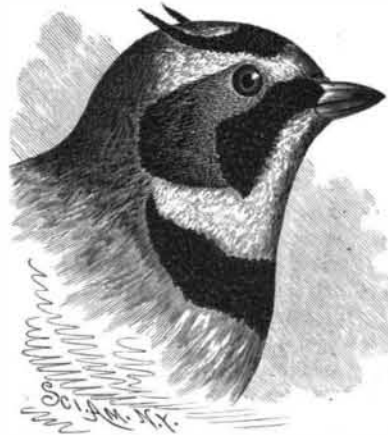
OUR WINTER BIRDS.

BY E. M. HASBROUCK.

It is a popular belief that the woods and fields in winter time are void of bird life, and are what they appear at a distance—a cold, bleak, and desolate waste.

This opinion, however, is not correct. It is true that the birds, which were so numerous during the summer, have left us and gone to their winter homes, but as they departed an entirely different fauna started from a colder climate, and gradually took their place. I refer to the birds of the northern part of Canada and the fur countries, whose summer homes are in these desolate regions, and which on the approach of winter are driven southward, making a temporary stay with us until the rigors of an Arctic winter shall have departed, and once more left their homes in an inhabitable condition.

A glance at these birds will take one into the same localities that have been so often traversed in the sum-



mer time, and once within the woods, the fact that they are cold and leafless is lost sight of. One can now find birds entirely different from any that he has heretofore seen, and at the same time learn several facts of interest concerning birds with which he considers himself well acquainted; as, for instance, the American goldfinch, which is supposed to migrate in the fall, will be found in the swampy woods in large flocks, but with plumage so changed that they will probably not be recognized, being of a somber brown color, and sexes undistinguishable. Why hundreds of a species, the majority of which migrate regularly, and which do not reach us until late in the spring, should change their dress and remain with us throughout our most severe winters is a problem.

In company with them will often be found the pine linnet and common red poll. These little finches are rather rare, and are seldom found together in any great numbers. They leave the North in large flocks, but as they journey southward break up into smaller and smaller companies, until only a few are left together. These join interests with the nearest goldfinches, and remain with them throughout the winter.

The results of a visit to the fields, on some clear day, will often repay a somewhat wearisome tramp. The snow buntings and shore larks frequent such places in large numbers, and a locality where the ground has been swept bare of snow, or is covered with a growth of weeds, is a favorite feeding ground.

Their food consists entirely of the seeds, and a spot once chosen by them is seldom forsaken until all in this line has been eaten.

The buntings will be found in flocks of from a dozen to two hundred, and in some even more. Their appearance when flying is pure white, but the upper parts of a specimen in the hand will be found mostly black. They are extremely shy, and when approached spring into the air and dart away in a manner that would indicate their intention of departing for the next county; but should you return that way in the course of half an hour, you will, in all probability, find them in the same place.

The shore larks, although feeding on the same grounds, seldom mix with the buntings, preferring to keep in flocks by themselves, and are worthy of attention, inasmuch as they have one marked peculiarity; this is the small tuft of feathers on each side of the head, resembling minute horns, which are raised and lowered at pleasure. (See out.)

The majority of these birds reach us at the approach of cold weather, although a few spend the summer here and rear their young. They are less timid than the snow bunting, and may often be approached quite close.

These two species form about all the attraction to be found to any extent in the fields, and, aside from an occasional hawk, only one more species frequents them, a species that is worth going miles to see—the snowy owl.

These birds reach us about the last of November and remain until the last of February, frequenting the neighborhood of some body of water, and seldom straying from it more than a mile or two. To see them and become at all acquainted with their habits, one must face all kinds of weather, possess untiring energy, and must undergo a considerable amount of fatigue. He will find them in the open country (as they frequent such ground altogether, seldom, if ever, entering the woods), perched on some fence post or stump, where, if undisturbed, they will remain for a considerable length of time, intently watching for mice, of which their food largely consists, set off by an occasional rabbit. They are extremely rare. One may tramp the fields for several days without success, and then again find one the first hour out.

On December 20, 1886, the writer started on a trip to Oneida Lake, N. Y., intending to devote his attention entirely to these birds; was gone four days, and saw five birds. This, of course, was exceptional, but shows what may happen.

In the dense pine and hemlock swamps several other species of owls are found, which are much more numerous at this season than in the summer. These are the long eared and short eared owls, with an occasional barred owl; but the most interesting of all is the Acadian or saw-whet, one of the smallest of the family and little known. It is far from common, being met with only at intervals. Its note, which closely resembles the filing of a large saw, occasionally betrays it; while at the same time it has a tendency to stray into barns and out-buildings, thus affording an opportunity for capture.

As it is not generally known, a description maybe of some benefit. "Upper parts, including wings and tail, uniform chocolate-brown, spotted with white; under parts white, thickly streaked lengthwise with the color of the back; face, white."

In general appearance, they are the same as all owls, but when seen in the woods have a somewhat comical appearance, owing to their wise look for so small a bird.

We have often heard of the shrikes, or butcher birds, that capture small birds and impale them on the thorns of bushes. Many of us have wished to see them, and wondered where and when they were to be found. Now is the time. Any clump of bushes or young second-growth is a likely place to find them, for there are two species which visit us every winter and frequent these places. These are the great northern and logger-head shrikes, the latter being most common; both bear a general resemblance, but differ mainly in size and in markings on the under parts. One can find them almost any day, perched on the topmost branch of some tree or bush, steadily eyeing the surrounding bushes in search of some victim, while on a thornbush near by will be found numberless moles, mice, and an occasional bird, awaiting the appetite of the marauder.

Aside from the goldfinches, many other birds of different species, instead of migrating with the rest, remain behind, and are to be found, on almost any pleasant day, in the warmer and more secluded parts of the swamp. Among these are the robin, golden-winged, downy, and hairy woodpeckers, the white-bellied nuthatch, and chickadees. These last are, perhaps, the most numerous of all our winter birds; whole flocks roam from one end of the swamp to the other, and I think there is no pleasanter sound to be heard in the woods in winter than to hear their clear "chick-a-dee-de-de" from a score of little throats, or to see them clinging to the branches and acting as familiarly as though no one was within sight or hearing. An occasional meadow lark will be flushed from the tall grass in some sheltered spot, while on the open streams will be found black ducks and mallards, whistlers and mergansers of two species, the hooded and buff-breasted or common sheldrake.

Truly, then, with all this material awaiting us, the fields and forests will be found inviting, and you who have never traversed them in winter do so now, and get a new interest awakened in them.

It is not long since we spoke of the benefits conferred on the farmer by the inventor. The following statement is a good illustration of our views as then presented. It is taken from our contemporary, the *New England Farmer*. "By the use of mowing machines and horse rakes and a horse hay fork, two boys in Connecticut last summer cut, raked, and helped to stow away 100 tons of hay, while their father was disabled from work by illness. Under such conditions a farmer is apt to feel like blessing the man who invents labor-saving machinery."