

The third instance of animals apparently having knowledge of the forthcoming earthquake was obtained from a farmer at Riwaka, a little tidal harbour near Nelson. "The morning of the event, milking took place about 6.30, after which the cows were set at liberty. Instead of separating and moving about the paddock to feed as usual they bunched together with their heads down and remained thus until the earthquake took place at 10.20 a.m. The men on the farm observed their strange conduct and commented thereon, wondering why they stood bunched together instead of feeding. Later, after the shock, they remembered the fact and understood the meaning of it."

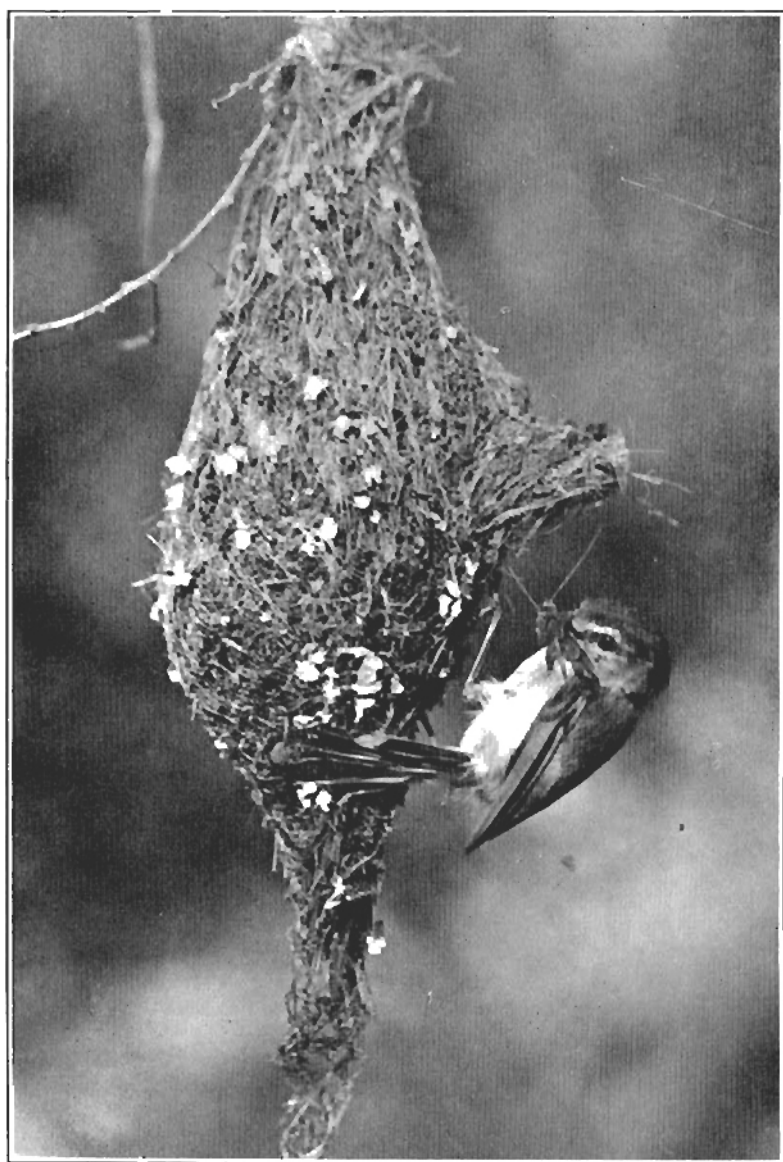
DISCOLORATION OF SHELLFISH IN NELSON BAY.

Having had her attention drawn by a fisherman at Riwaka to the fact that shellfish had become discoloured, the writer obtained several mussels and opened them and found that they were unusually grey-brown in colour. Enquiries revealed the fact that oysters at the time of the earthquake were likewise discoloured. The fishermen first became aware of the fact through customers complaining of dark-coloured oysters. The fishermen say that such an occurrence has never happened before.

The earthquake naturally brought down quantities of silt from inland, seeing that the rivers flooded very badly, but this would not account for the discoloration of shellfish, because it is customary after any big flood for the waters of the bay to be discoloured. The phenomenon may be the result of certain chemical reactions, as apparently it took place alike on the northern and western coast of the South Island, where the earthquake disturbance was centred.

Notes on the Brown Warbler.—Along the brush-fringed watercourses in National Park, Sydney, one may hear a frequently repeated bird song that closely resembles the words, "What is it, what is it." The notes are not melodious, but they compel attention by their cheerful insistence. The author of these notes is a plain little bird brown above with a whitish forehead and eyebrow and whitish breast and abdomen. The tail has a white tip followed by a black band. It is the Brown Warbler (*Gerygone richmondi*). In movement it is lively and animated as it searches among the leaves or sallies forth to capture an insect in mid-air. Unlike its migratory relative, of the plaintive melodious song, the White-throated Warbler (*G. olivacea*), it is a permanent resident.

As though to compensate it for its inconspicuous plumage and rather poor song, it is an architect of great skill. The nest, usually suspended in a dark, well-hidden situation from a leafy tree or jungle creeper, is a beautiful structure.



Brown Warbler at nest.

Photo. by Norman Chaffer, R.A.O.U.

Of an elongated domed shape about nine inches in length, it tapers away gradually at the bottom to form a tail. The entrance is constructed on the side towards the top of the nest and is covered by a well-formed hood. Sometimes this hood is extended and directed downwards, forming a tunnel a couple of inches long. It is composed largely of bark and fibres closely woven together with spiders' webs. The exterior is covered with dark green moss on which are fastened pieces of light blue-green lichen. The interior is warmly felted with thistledown or similar material. Three eggs, white with reddish spots, form the usual clutch. The nesting season extends from October to February.

The nesting habits of the Brown Warbler are delightful to watch. The female, which can be identified by her duller plumage, appears to do most of the building. She works most assiduously, sometimes bringing material to the nest several times in a minute. All the time the male is in attendance singing incessantly. While she gathers material he perches nearby singing his loudest and fluttering his wings the while. She disappears in the nest with a beakful of material, and while the nest bulges and shakes with her exertions the male perched alongside flutters his wings and pours forth his song of happiness. The White-throated Warbler also has the pretty habit of fluttering his wings and singing during nest building, but not nearly to the same extent.

Ample opportunity was afforded of observing the pretty actions of a pair of Brown Warblers which were building alongside the bird cabin in National Park. A large portion of the nesting material was obtained from a nearby palm. The female would often seize a thread of palm fibre while in flight and tear it off without alighting. This pair of Warblers were very unfortunate in their home-making. Three nests were built, but in each case were robbed of their contents or destroyed. The birds were first noted building on November 23. On December 8 the nest was found to be destroyed and the birds were again building. On December 15 this nest was found to be robbed of its contents, and the birds were noted building nearby. They were entering into the work with the same enthusiasm and joy as with the first nest. After the bird had been sitting on eggs for a time this nest was also robbed—about the second week in January. I do not know if the birds built a fourth nest as I did not see them about the immediate vicinity. Several other nests under observation shared a like fate. The marauders' usual method of entry is by tearing a hole in the top about an inch in diameter. Sometimes the nest is broken away altogether. One nest had a hole in it when it contained eggs, but later on young were noted in it. I am inclined to think that birds such

as the Currawong (*Strepera*) are the offenders. Entry to the nest by any but a very small bird could only be made by tearing a hole in it, as the entrance is only a half inch in diameter.

Another pair of birds under observation half a mile upstream from the cabin built their nest only six feet from the ground in an exceptionally open position. They succeeded in rearing their brood, whereas other birds whose nests were well hidden had failed. I first saw them building on December 22, when only the rough framework of the nest was constructed. The young finally left about February 6, 1930. A photograph was taken on February 2, when the nest contained large young. The birds were not at all timid, particularly the male. Both birds were equally attentive in feeding the young.—N. CHAFFER, R.A.O.U.

New Zealand Native Birds.—Mr. Newton McConchie, of Glenhope, writing to me, says:—"The Bush Canary (*Mohoua ochrocephala*) is still plentiful in the back country of this district. When feeding it follows the direction of the sun until about mid-day, when it reverses and gradually works back to its starting point. This action is rather difficult to understand. It is certainly something in connection with the sunlight, though its haunts are nearly always in the gloom of the heavy birch forest." The letter goes on:—"Your suggestion relative to the Maori Hen (Woodhen) and giving the reason for its almost being extinct as an epidemic is quite correct. I was a constant visitor to the Owen Ranges in the years 1912 and 1913. Here they were to be seen in dozens all over the open snow country. Some fatal disease appeared to attack them during the months of February and March, 1913. Though I saw remains of the birds, none appeared to be older than two months at most."

From Murchison comes the following about Bellbirds (*Anthornis melanura*):—"During autumn and up to the time of the earthquake there was an unusual number of Bellbirds in an apple tree at the side of our house. It was beautiful to listen to their deep bell-like notes. At one time six were whistling at once. They seemed to take turns. You could hear four and sometimes five whistling at once, then another would fly into the tree and start whistling and one of the others stopped, then came another bird from another tree and again one would cease whistling. Anyone could walk under the apple tree and the Bellbirds would be still whistling not two feet above one's head. I have counted as many as fourteen birds on the apple tree at once, eating apples and pecking about the tree. They would eat the apples leaving only a shell hanging on the tree—so they were short of food this last winter (1929)."—(MRS.) PERRINE MONCRIEFF, R.A.O.U., Nelson, N.Z.