

Fish were in fair supply during May, except during a few days of stormy weather. Some exceptionally large Flounders were caught on the 7th; on the 8th, a fine Snapper; and towards the close of the month Trevally were very plentiful.

June was a month of very severe weather all through, but with the exception of a few days the supply was good and sometimes plentiful. On the 19th, a solitary Barracoota was caught in a net in the Lower Harbour. A market for the sale of fish, etc., was the subject of some discussion during the month.

July was characterised by a continuance of fine clear frosty weather nearly all through the month, winding up with a snowstorm on the last day. The great feature of the month was the abundance of Frostfish which were brought to town in greater or less number for 20 days. They were mostly brought from the beaches between Blueskin and the Heads, and formed quite a small harvest to the younger settlers along that line of the coast, as pretty fair prices were given for them by the dealers, who resold them at prices ranging from five to ten shillings each.

In accordance with the wish of the President and others, expressed at the time I read the paper last year, I wrote to Mr. Traill, of Stewart Island, for particulars as to the state of the trade there, but I never received any reply. However, I am able to give the following statistics as to the number of boats and men engaged in the trade at the present time, August 7th, 1878:—

There are engaged in the fishing, outside of the Heads, 9 whale-boats and 2 cutters, employing about 30 men. In the Harbour or seining branch there are 16 boats and about 40 men engaged. At Port Chalmers there are two smoke-houses with four men to each. At Stewart Island I have learned there are two smoke-houses, and about 30 men engaged in boating, etc.

Hoping that the figures and facts I have drawn together may be of some use to the members, I now bring my three years' task to a conclusion.

ART. LIII.—*The District of Okarito, Westland.* By A. HAMILTON.

[Read before the Westland Institute, 16th July, 1878.]

THE Okarito district comprises a large area of comparatively unknown ground, as the whole of the settlements which have at one time or another existed on it, have been either on the sea-coast or on the river-beds. The sole attraction to settlers having been the "*Auri sacra fames*," agriculture has been comparatively neglected, though many excellent areas of ground

exist, quite equal to much land in the North Island, that amply repays the capital invested. The opening of the Okarito-Bowen Road will, no doubt, cause more land to be taken up for bonâ fide settlement. Communication will then be of a more certain character, and travellers will be enabled to avoid the difficulties and dangers of the rivers and rocky bluffs on the coast line. One of the most interesting sights in New Zealand, the Franz Josef Glacier, will then attract more visitors to its beautiful scenery and wondrous masses of ice and snow.

In what are generally known as the "early days," Okarito was a flourishing township, and the diggings on the various beaches north and south of it, were swarming with busy workers, washing from the sands the particles of gold brought down by the rivers from the hills ages ago, and since divided into small particles now found. The geology and mineralogy of the hill-country, towards the main range at the back of the district, is not known with accuracy, owing to the difficulties of penetrating the intervening bush. As far as can be judged from the materials composing the terraces which form the undulating ground between the hills and the sea, a number of valuable minerals are stored in this part of the country, and it is not too much to express an opinion that, when fully explored, the ranges south of Mount Tyndall will prove to be the Cornwall of New Zealand. Owing to the deficiency of good harbours on this part of the West Coast, it may be very long before a trade can be established. Hitherto the only mineral sought for has been gold, and many are the places in which it has been found—in fact, it never having been found in the river Waitaki (or Waitangi) renders it a remarkable river, running as it does through the same kind of country, and having rivers and creeks on each side of it that have yielded heavy amounts of gold. I have not the opportunity of examining a return of the total amount of gold procured in the district, but it must be very large, as the different diggings at the Forks, the Three-Mile and Four-Mile Beaches, the Waio and Wateroa rivers and McDonald's Creek, have proved at one time or another very rich. Very few are now working on the beaches, for, though far from being exhausted, the sand shifts so much with every gale of wind and heavy sea, that it mixes the sand from which the gold has been taken with that still containing the metal. Thus to extract the gold requires more labour than previously, as much sand has to be washed that has already been impoverished. Very curious and beautiful this black sand looks under the low powers of a microscope, heaps of rubies and diamonds appear to be mixed with "patines of fine gold" and stones of less brightness and beauty, with here and there thin laminæ of mica and pearly-looking quartz.

Unfortunately for Okarito no reefs have yet been found showing any

signs of gold, though there is plenty of quartz near McDonald Creek, and quartz has been found adhering to gold got at the Forks, and also in the Wateroa. If good reefs were to be discovered they would be of great use in opening up the back country and restoring the now fast-decaying town of Okarito.

Leaving the consideration of the inanimate productions of the district, if we consider the conformation of the country, sloping away from the main range in hills and terraces to the sea-level, we perceive that it is a favourable spot for the occurrence of those forms of animal and vegetable life for which this 'Bird and Fern Land' is noted.

In the sub-alpine, and even alpine regions, are found large numbers of those curious birds, commonly called kiwis and rowis, now the last representatives of that peculiar struthious avi-fauna that once roamed over these islands. Although moa bones have been found in places all over the South Island, their occurrence in Westland is unknown to me. I should be glad to learn if any remains were ever obtained in the neighbourhood of the Haast River, as there seems to be no very great obstacle to their passage from the eastern plains in that direction. Two other birds are peculiar to the alpine regions, the kakapo (*Stringops habroptilus*) and the kea (*Nestor notabilis*); the former is getting very scarce now, in consequence of its falling an easy victim to dogs and cats that have taken to the bush. In the centre zone or lower hills we find a larger number of perching birds, pigeons and kakas, etc., and also along the river-beds swarms of Maori hens (*Ocydromus australis*), etc. This impudent and inquisitive bird furnishes a much-prized article of food to diggers and prospectors. A good dog will sometimes catch sixty or seventy in one night. The bodies of the birds are split open and smoked, and will then keep a long time. Their oil is much valued, and is used for as many purposes as Holloway's pills, being an ingredient in many a damper, and an infallible remedy for bruises and rheumatism, besides being used for the general purposes of fat and grease. Attached to this paper will be found a list of all the birds I have seen since I have been here, together with those that are, no doubt, found here, but which are only included from trustworthy report; these have a mark affixed to them.

From this list it appears that the district contains representatives of almost every species of land bird found in the South Island, with few exceptions. Many of the petrels, puffins and other sea birds are doubtless seen off the coast in bad weather, but few come ashore. This district claims, as pre-eminently its noblest bird, the beautiful white heron (*Ardea alba*), formerly remarkably numerous. I regret to say that since certain miscreants destroyed a quantity of nearly hatched eggs, they have slightly

diminished in number, though many still ornament the upper waters of the lagoon and the river on which they breed, on which river there is also a shaggery (*C. brevirostris* and *carbo*). Another very handsome and remarkable bird, the crested grebe (*Podiceps cristatus*) is tolerably plentiful on the lagoon and smaller lakes. The Okarito Lagoon has been formed from a large bay by the silting up of successive bars of sand and shingle, through which the river and streams flowing into it have had to force their way. Within the past month a succession of heavy southerly winds raised a huge bar of sand and shut up the mouth of the river. The consequence of course was that the water rose till a channel was cut through the bar and the water liberated. It is six or seven miles from the town of Okarito to the head of the lagoon, by a tortuous channel, now winding amongst the mud flats, uncovered at low water, and abounding in pipis and cockles, small crabs and other animals peculiar to brackish water; and now flowing between bushes and shrubs with a channel ten or twelve feet deep, and wide enough to have admitted a steamer, the Woodpecker, I think, once upon a time. Amongst these bush-covered points and islands are quiet nooks in which you may come suddenly upon a flock of black teal (*Fuligula novæ-zealandiæ*), or a party of grey ducks will rise with a great commotion, increased by the harsh scream of the paradise duck (*C. variegata*). I am glad to see that the black swan (*C. atrata*) is now well established in this district; they have increased very rapidly within the last two or three years. I have seen as many as fifty, with a lot of young cygnets, in sight at one time. Some of them occasionally go down south somewhere, in flocks of six or eight, for a few days. Seeking their food on the mud flats at low water may be seen pied redbills (*H. longirostris*), curlews, plovers, dotterels, and the pretty lake gull (*Larus bulleri*). On going inland the silence of the bush is broken by the peculiar notes of the bell-bird (*A. melanura*) and the tui (*Prosthemadera novæ-zealandiæ*), especially where the rata shows its crimson flowers, from extracting the juices of which, with their brush-like tongues, they are often disturbed by the kaka who forsakes the grub-infested log for the honey of the flower. The demand for feather trimmings and kiwi skin muffs has caused the slaughter of a great number of birds in this district and further south. Though the poor kiwis have a slight respite from their former persecutor, there is another on their track with large orders from London houses, and no doubt he will considerably reduce their numbers. I must now apologise for the superficial manner in which I have run over the subjects I have brought before your notice, and I trust when my collections are more complete, that I shall be able to present to the Society a list of the plants, etc., found in the neighbourhood, and to supplement this paper with further particulars of other objects of interest.

Since the above was written I paid a visit to the well-known heronry on the Waitaki-tuna, and I regret to say that the birds have abandoned the spot in which they formerly bred. In 1876 six broods were reared, and the nests, as well as remains of numerous old ones, still remain. There can be no doubt that the way in which the saplings were torn down to procure the eggs was the cause of the disruption of the colony. The small shag (*G. brevirostris*) has also disappeared simultaneously. It is to be hoped that the white herons will find a more secure place for their new home, and thus arrest for a few years their extinction.

List of Birds found in Okarito District.

I. ACCIPITRES.

Falconidæ. *Hieracidea novæ-zealandiæ*, Lath. *Circus gouldi*, Bp.

Strigidæ. *Athene novæ-zealandiæ*, Gml.

II. PSITTACI.

Stringopidæ. *Stringops habroptilus*, Gray.

Platycercidæ. *Platycercus novæ-zealandiæ*, Sparrm. *P. auriceps*.

Trichoglossidæ. *Nestor meridionalis*, Gml. *N. occidentalis*, Buller. *N. notabilis*, Gould.

III. PICARIÆ.

Alcedinidæ. *Halcyon sanctus*, Vig. et Horsf.

Cuculidæ. *Chrysococcyx lucidus*, Gml. *Eudynamis taitensis*, Sparrm.

IV. PASSERES.

Menuridæ. *Orthonyx ochrocephala*, Gml. *Certhiparus novæ-zealandiæ*, Gml.

Meliphagidæ. *Zosterops lateralis*, Lath. *Prothemadera novæ-zealandiæ*, Gray.

Anthornis melanura, Sparrm.

Muscicapidæ. *Rhipidura flabellifera*, Gml. *R. tristis*, Homb. et Jacq.

Turdidæ. *Keropia crassirostris*, Gml.

Sylviadæ. *Gerygone flaviventris*, Gray. *Petroica macrocephala*, Gml.

Motacillidæ. *Anthus novæ-zealandiæ*, Gml.

Certhiidæ. *Acanthisitta chloris*, Sparrm.

Maluridæ. *Sphenæacus punctatus*, Quoy et G.

Sturnidæ. *Creadion carunculatus*, Gml.

Corvidæ. *Glaucopis cinerea*, Gml.

V. COLUMBÆ.

Columbidæ. *Carpophaga novæ-zealandiæ*, Gml.

VI. GALLINÆ.

Tetranoidæ. *Coturnix novæ-zealandiæ*, Q. et G.*

* I have not obtained these.

VII. GRALLÆ.

Rallidæ. *Ocydromus australis*, Sparrm. *O. fuscus*, Dubus.* *Rallus pectoralis*,* Less. *Ortygometra affinis*,* Gray. *O. tabuensis*, Gml. *Porphyrio melanotus*, Temm.

Scolopacidæ. *Limosa uropygialis*, Gould.

Charadriidæ. *Charadrius obscurus*, Gml. *C. bicinctus*, Jard. *Thinornis novæ-zealandiæ*. *Hæmatopus longirostris*, Vieill.

Ardeidæ. *Ardea alba*, L. *Ardea pusilla*, V. *Ardea poiciloptera*, Wagl. *Nycticorax caledonicus*, Lath.*

VIII. ANSERES.

Anatidæ. *Casarca variegata*, Gml. *Querquedula gibberifrons*, S. Müller. *Rhynchospis variegata*, Gould. *Fuligula novæ-zealandiæ*, Gml. *Hymenolaimus malacorhynchus*, Gml.

Laridæ. *Larus dominicanus*, Licht. *L. scopulinus*, Forst.* *L. bulleri*, Hutton. *Sterna caspia*, Pall. *S. frontalis*, Gray. *S. antarctica*, Forst.

Pelecanidæ. *Graculus carbo*, L. *G. brevirostris*, Gould.

Ptilopteri. *Eudypetes pachyrhynchus*, Gray.

Podicipidæ. *Podiceps cristatus*, L. *P. rufipectus*, Gray.

IX. STRUTHIONES.

Apterygidæ. *Apteryx australis*, Shaw. *A. oweni*, Gould. *A. maxima*, Verr.

ART. LIV.—Notes on the Breeding Habits of the Katipo (*Latrodectus katipo*).

By C. H. ROBSON.

[Read before the Wellington Philosophical Society, 3rd August, 1878.]

THE Katipo is found in great abundance all along the coast of the South Island, from the mouth of the Wairau river to the Kaikoura peninsula. They are all of the variety so well described by Dr. Buller and Dr. Powell, in Vol. III. Trans. N.Z. Inst., pages 34 and 56, and all have the bright scarlet band with yellow border on the abdomen; the other markings are distinct on some individuals and faint on others. The black variety without a red dorsal stripe, and which is mentioned by the Rev. M. Taylor and Mr. Wright does not seem to inhabit this part of the coast, nor have I ever seen it. The above writers having made no mention of the number of young which these spiders produce from a single cocoon, or the time occupied in doing so, I determined to try and settle these points by actual experiment, with the following results:—On November 4, 1877, I put a

* I have not obtained these.