

**Nyroca australis**, Gould. (The White-eyed Duck.)

A specimen was lately obtained in the Wairarapa Lake. There are several in the Canterbury Museum, all from Lake Ellesmere.

**Casarca variegata**, Gmelin. (The Paradise Duck.)

This fine Duck, formerly so plentiful in the Marlborough District, is becoming scarce, large numbers perishing every season through taking the poisoned grain laid for rabbits. A Marlborough resident informs me that years ago he was a constant attendant when the Maoris hunted the "flappers," or moulting birds when incapable of flight, and that he has known upwards of five thousand to be taken in this manner during a single season. They are now counted only by tens and twenties.

**Apteryx bulleri**, Sharpe. (The North Island Kiwi.)

I have to notice a singular development in the bill of a Kiwi from the Hawera district which was kindly presented to me by Mr. S. H. Drew, of Wanganui. The lower mandible is bent downwards at the tip, after the familiar form of a boat-hook (see fig. 1, Pl. VI.). Most of the toes are without claws, having blunt and rounded extremities. I think this condition is due to the bird having, when very young, passed over ground on which a fire was smouldering, using the bill in the manner habitual to it, and getting severely burned in consequence. Notwithstanding these drawbacks, this Kiwi seemed to have had no difficulty in procuring food, and was in excellent condition of body when presented to me. As requested by Mr. Drew, I turned it loose on my little wooded island at Papaitonga, where it will have the companionship of its own and other species.

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ART. X.—*Further Notes on the Birds of New Zealand.*

By Sir WALTER L. BULLER, D.Sc., K.C.M.G., F.R.S.

[*Read before the Wellington Philosophical Society, 18th January, 1893.*]

THIS budget of notes, which is merely a continuation of a similar paper read at a former meeting, is probably the last I shall offer to this society for a considerable time, as I purpose leaving in a few weeks for Europe, and may be absent from the colony several years.

Almost every fact of any value or significance which has come to my knowledge since the publication of my "Birds of

New Zealand" will now have been recorded in the pages of our Transactions. It is only by a systematic record of this kind that we can ever hope to obtain a complete "history." I earnestly hope, therefore, that the numerous workers in local science whom I am leaving behind will feel it incumbent on them to register their observations from time to time, always bearing in mind that an ounce of well-ascertained fact is, as a rule, worth more than a bushel of theory. We have yet much to learn, especially in a new country like this, of the life-economy and habits of every species; and it seems to me that our Society fulfils its most important function when it places on permanent record, for the student of the future, the gatherings of the local naturalists, however unimportant they may at the time appear. An observation, trivial in itself, may hereafter, in association with other observed facts, possess a special value in the elucidation of scientific truth.

***Glaucopis wilsoni*, Bonap. (The Blue-wattled Crow.)**

This bird is becoming very rare where formerly it abounded. During a recent expedition into the Tararua Ranges, extending over three days, I met with only one, a fine adult male, which I had no difficulty in shooting, as the bird is not shy. It made a beautiful cabinet specimen, although soon after death the rich mazarine-blue faded out of the wattles, and they became black as the skin dried. My son, Mr. Leo Buller, has the following note in an old diary: "While out pig-hunting on the ranges near Whangarei, on January 15, I found a Kokako's nest, which contained two young birds. These made their escape from the nest, but the dog caught them, killing one in the operation. I endeavoured to keep the other alive in a cage, but it moped and died."

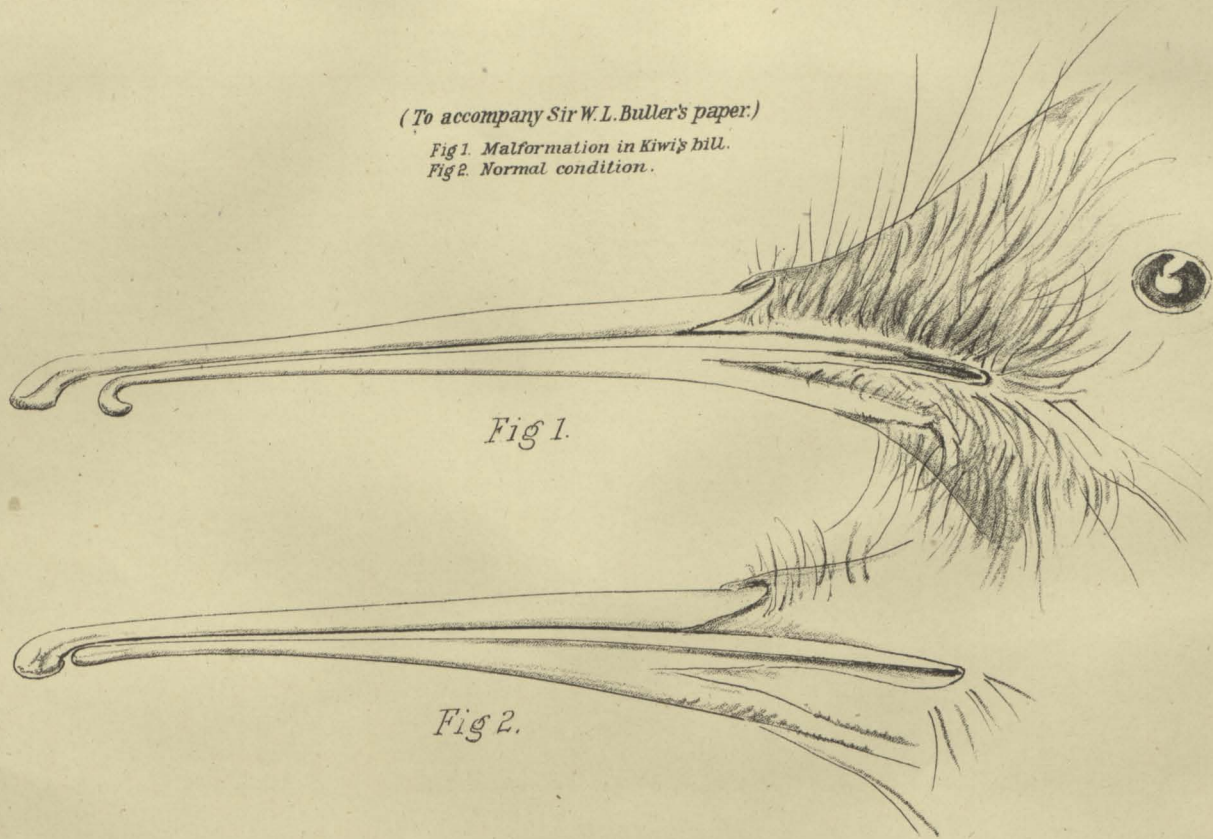
***Glaucopis cinerea*, Gmelin. (The Orange-wattled Crow.)**

Dr. Cahill kindly presented me with a live bird which he had received from Westport, and I had it in my possession many months. Finally it died in a fit, due, I think, to over-feeding without the stimulus of freer exercise. It was an adult male and in perfect plumage, with bright-orange wattles, dark-blue at the base. Its habitual note, emitted frequently, but chiefly in the early morning and forenoon, was a long, plaintive double-note, pitched in a minor key, very pleasant to hear, but to my mind possessing less richness than the organ-note of the North Island bird (*G. wilsoni*). It was accustomed to use its feet on eating leaves or berries presented to it, just as a Parrot would. On offering this bird a large blue-bottle fly he held it to his perch in the manner described, and deliberately tore off one wing, then the other, tasted its flavour, and immediately dropped it. As a rule he would not touch in-

(To accompany Sir W.L. Buller's paper.)

Fig 1. Malformation in Kiwi's bill.

Fig 2. Normal condition.





sects, but showed great fondness for succulent leaves of any kind, particularly those of *Coprosma lucida*, and all sorts of native berries, whether ripe or green. He ate freely of the ripe fruit of the whauhe, but it had a scouring effect, and I had to discontinue the use of this food. It partook readily of cooked potato, boiled rice, and soaked bread; and it was fond of water, drinking freely, but rarely washing itself as other birds do, and yet its plumage was always in clean, silky condition. The wattles were always carried tightly compressed under the chin and meeting at their edges. As I became better acquainted with the bird I found that it possessed several notes besides those described in the recorded history of the species. In the early morning, or before rain, it had a melancholy call like "*Kowai-koe*?" in a high key; at other times a mellifluous whistle, and every now and then a note quite indistinguishable from the short bell-toll of the Tui. To this is no doubt due the circumstance that this is the Bell-bird of many of the country settlers. Occasionally, but not often, he sounded the rich organ-note—short, but of surpassing sweetness—and at other times a soft note in repetition like the low whimper of the Huia. The mention of yet another note, not unlike a short, hollow cough, will prove that this bird was not wanting in vocal accomplishments. Curiously enough, after losing its tail by accident, the Kokako moped and hardly uttered a sound, as if ashamed of the sorry condition it presented; and as the new tail began to show itself the bird regained its wonted sprightfulness.

**Heteralocha acutirostris**, Gould. (The Huia.)

To show how much scarcer this bird is than it was formerly, I may mention that a few months ago, accompanied by Mr. Morgan Carkeek, I made an expedition into the wooded ranges at the back of Waikanae. We crossed the Akatarewa saddle into the valley of the Hutt, and made a ten-mile circuit over the wooded ranges, cutting our path with bill-hooks through the virgin forest, rendered almost impervious by a tangle of kiekie and supplejack, and camped several nights in the woods. During the whole expedition we only saw a single Huia—a male bird, which visited our camp in the early morning. Mr. Carkeek assures me that when exploring and surveying in these ranges only five or six years ago the Huia was comparatively plentiful.

On a more recent occasion, accompanied by a Maori, I visited the portion of the Forty-mile Bush where, as related in my "*Birds of New Zealand*," I obtained so many specimens in 1883. But the bush has completely disappeared before the advancing wave of European settlement. From Pahiatua we rode for twenty miles through clearings exhibiting nothing

but charred and naked stumps, the whole of this country being at the time of my former visit covered with beautiful forest. From the practical standpoint of material advancement there is nothing regrettable in this; but the fact remains that the home of the Huia is being swept away, and, although these birds, in greatly-diminished numbers, have taken refuge in the wooded mountain-ranges, the date of their extinction cannot be very far distant.

In conversation with intelligent men in the survey parties, I obtained some interesting particulars relating to the Huia in its native haunts.

As illustrating its extreme docility, even in a wild state, Petersen, a very intelligent man in the survey party, who was specially recommended to me by Mr. Climie because of his knowledge of the Huia and its habits, related the following incidents.

On one occasion, almost immediately after pitching a temporary camp in the ranges, Petersen found that a pair of Huia's had a nest in the vicinity—in fact, not ten yards from the camp. On an old gnarled rata a branch overhung another part of the tree in such a way as to present a broad covered ledge, and this was the spot the birds had selected for their nest. There were three young ones; this being the only instance, Petersen says, of his finding so many, the usual number being two. The Huia's were very tame and fearless, the female bird allowing herself to be handled on the nest. In the evening Petersen took her off, and, placing her on the ground near the camp fire, gave her some food, which was very readily taken. The bird was then replaced on the nest, and manifested no concern at this familiarity. In a few days' time the survey party had to shift camp, and, to their credit, the Huia with her callow young remained unmolested. On another occasion he found a Huia's nest containing a single nestling: this was low down in a wooded valley near a stream of water, whereas all others seen by him were near the summit of the range. The nest was not in a hollow tree, but in the depression formed at the top of a truncated one, with a mass of overhanging vines and epiphytic growth, affording it complete shelter. He took the nestling and placed it in a cage made of kareao-vine, which was then suspended from the ridgepole inside the men's tent. The old birds followed him to the camp, and continued to feed their young one, coming into the tent for that purpose quite regardless of the men's presence. The nestling got strong and robust, but was so noisy in the early morning that the men complained of its disturbing their rest, so the owner passed it on to a settler in the Makuri Valley. He kept it for a considerable time, but one frosty night its cage was left exposed, and in the morning the

Huia was dead. Shortly after this, one of the survey hands brought him two young Huias, taken from one nest. The old birds remained in the vicinity; and, after facetiously "making a new species," by snipping off the white tips of the tail-feathers with a pair of scissors, he turned the young birds adrift, whereupon they joined their anxious parents and disappeared in the woods.

The nesting-season of this species must be well over at the end of November, for all the female birds I obtained at that date, although greatly denuded of feathers on their underparts by their protracted labours in the way of incubation, were recovering their yellow fat in various parts of the body. I think the male bird must assist more or less in the work of incubation, for most of those I killed at that period had the underparts bare, but to nothing like the extent presented by the other sex. In the stomachs of eight which I opened at this season I found very few insect remains, but abundance of vegetable matter, among which I was able to distinguish a ripe berry of porokaiwiria and the pulp of others, with numerous seeds of tawhero and kaikomako. In the stomach of one I found a spider, and the remains of a small weta or tree-cricket.

I am informed by Mr. Drew, of Wanganui, that he lately had a beautiful albino Huia offered to him in the flesh, but unfortunately allowed it to pass him. I have since endeavoured to trace this specimen, but without success.

**Creadion carunculatus**, Gray. (The Saddle-back.)

I recently received a fresh specimen from Stephen's Island (in Cook Strait) which possesses special interest, not only as proving that the species still exists in this part of the colony, but because it is a very young bird (in the true plumage of *C. carunculatus*), with very small caruncles and a narrow yellow membrane at the angles of the mouth. The only difference in the plumage is that it is duller than in the adult. Such a specimen as this establishes beyond all doubt the validity of *Creadion cinereus* as a distinct species.

*Creadion carunculatus* is still to be met with on several of the wooded islands in the Hauraki Gulf, but it has entirely disappeared from the mainland. I expected to find it on the Island of Kapiti, but the natives assured me that it had not been seen there for many years.

**Turnagra crassirostris**, Gmelin. (The South Island Thrush.)

Of this species I have also lately received a specimen from Stephen's Island; so it is to be hoped that these small island sanctuaries will be the means of preserving many of these rare forms.

A caged specimen recently brought to me by Mr. Capper presents the abnormal feature of the whole of the middle portion of the tail being yellow, with a brown streak down the shaft of each feather.

**Turnagra hectori**, Buller. (The North Island Thrush.)

Through the courtesy of Mr. J. D. Climie, District Surveyor, I recently received from the Makuri Ranges a fine specimen of this rare species, positively the first I have seen in the flesh for twenty years and more.

It is to be hoped that when the Little Barrier Island has been acquired by the Government for the purposes of a "native birds' sanctuary" at least one pair of the North Island Thrush (which is easily caught when found) may be obtained, and liberated there, so as to save the species from ultimate extinction. I have heard from surveyors and others that it is occasionally met with (always in pairs) along the Hunterville line of road, and in the wooded district north of Wanganui.

**Prothemadera novæ-zealandiæ**, Gmelin. (The Tui.)

From Hastings, under date of the 18th January, the Hon. Captain Russell sends me the following note: "I have one good large plant of the mountain-flax growing in my garden here. It was planted by myself many years ago. This evening *one* Tui was hopping about it extracting the honey. Almost every season a *pair* of Tuies appear, when the flax-plant is in bloom, remain a day, and then vanish—where? Why do they come? And whence? There is abundance of the swamp-flax not far away, but I have never observed a Tui upon it. There is no native bush, as you know, within miles of Hastings. Possibly you may not think the circumstance strange, and I mention it only because it seems so to me." In reply I have told Captain Russell that the instance he records is by no means uncommon, but that it is quite impossible to account for these vagaries on the part of wild birds. There is a very remarkable case within my knowledge of a Wood-pigeon (*Carpophaga novæ-zealandiæ*) which, for years past, has at a particular season visited a flowering yellow kowhai in a garden in front of Tinakori Road, in the suburbs of Wellington—miles away from the nearest haunt of the Pigeon—remains a day, and then disappears. It may, I think, be safely assumed that the same individual bird comes back season after season; and, whatever else it may indicate, it seems to furnish good evidence of the existence of memory in birds as a permanent faculty. The same thing has been observed of the common Seagull (*Larus dominicanus*). Birds that have been reared by hand in the poultry-yard and have subsequently gone wild will, years after, revisit the scenes of



their youth, regale themselves for a day with the fowls, and then betake themselves to the sea again.

**Anthornis melanura**, Sparrm. (The Bell-bird.)

On the 15th of February last I shot a young korimako on the summit of one of the lower ranges of the Tararua, at an elevation above the sea of 800ft., about six miles in a direct line from Kapiti. I heard the sweet song of the adult, but did not actually see the bird. They were feeding on the flowers of the tawhiwhi or climbing rata (*Metrosideros scandens*), and, according to our Maori attendants, were visitors from the island, where this songster is still comparatively abundant.

Mr. Percy Smith, the Surveyor-General, has sent me the following interesting note:—

“In Dr. Lesson’s ‘Voyage aux Îles Mangarewa’ I have come across the following: In a list of eighteen birds, of which he gives the native names, he ends by saying, ‘*enfin le komako, une espèce de Philedon qui ne quitte pas les lieux boisés.*’ The resemblance of the name to our komako or korimako, together with its scientific name being identical, would seem to prove that the Gambier Islands have a representative of our bird there. You have not noted the fact in your ‘History,’ so the information is probably new to you, and is of much interest.

“As Dumont d’Urville and Beechey both visited Mangarewa in the earlier years of this century, possibly one or both of them have notices of the bird. What a mistake it is that D’Urville’s great work cannot be seen in this country!”

**Xenicus longipes**, Gmelin. (The Bush Wren.)

For the first time in the North Island, I saw this bird (at any rate I feel persuaded it was) on the 29th November, but only on the wing, in the wooded hills just beyond the Makuri Gorge. It crossed the road at a moderate height with a very laboured flight, and was immediately lost among the foliage.

The natives state that formerly the Bush Wren (the Matuhituhi) was numerous here and at a higher elevation on these wooded ranges.

**Acanthidositta chloris**, Sparrm. (The Rifleman.)

This appears to be a late breeder. On the 28th November, in the Puketoi Range, I was sitting on a log skinning a Huia, and the camp was perfectly still. On the ground around were numerous feathers of a Kaka my Maori attendant had plucked for breakfast. A Rifleman (the male bird) came almost to my feet, and, picking up a feather, flew away with it, and then a second and a third. On the last occasion I followed the bird, and saw it enter a round cavity about the size of a rat’s hole, sixteen or eighteen feet up the trunk of a young hinau. The

day following, in the Makuri Gorge, I saw another of these birds carrying a feather, evidently for nest-building purposes.

**Eurystomus pacificus**, Latham. (The Australian Dollar-bird.)

I have already recorded several occurrences of this vagrant species in New Zealand, chiefly on the west coast of the South Island. The following paragraph recently appeared in the *New Zealand Herald* (Auckland):—

“Some specimens of the Australian Dollar-bird have appeared in the Wairoa district, and some of them have been shot out of curiosity. They are entirely insectivorous, as can be seen by a careful observer, and as was proved by a *post-mortem* examination of one.”

This was in the month of November. It is to be hoped that the species will become a permanent resident with us. Another useful Australian bird, *Gymnorhina tibicen*, introduced by the settlers, is becoming well established in various parts of the country.

**Stringops habroptilus**, Gray. (The Kakapo.)

Captain Mair writes me that, according to the Maoris, on Hauhangataho, an isolated hill about ten miles to the westward of Ruapehu and the watershed of the Manganuiateao, Kakapos are still plentiful. His informant, Wi Takerei, showed him the feathers of two he had killed at the foot of the Kai-manawa Range, near Tokano.

The food of the Kakapo consists entirely of vegetable matter, and it has a prodigious appetite. In a standard American work appears the extraordinary statement that it “burrows in the ground or in holes in the rocks, and feeds upon worms and grubs”!

I have never met with an albino Kakapo, but several of my specimens show a strong tendency to yellow, some of them having the plumage of the underparts entirely suffused with that colour.

**Platycercus unicolor**, Gray. (The Antipodes Island Parakeet.)

Several more specimens of this interesting Parakeet have been brought by the “Hinemoa” from Antipodes Island. Although captured as adult birds they take readily to confinement, and do not fret, as most other birds do, at being caged. I have noticed that this species has a habit of resting at night in an upright position, holding on to the wires of its cage by both bill and feet.

**Spiloglaux novæ-zealandiæ**, Gmelin. (The New Zealand Owl.)

The Morepork is so strictly nocturnal in its habits that I ought to make special mention of one which has taken up its abode in a small clump of bush near my homestead on the Papaitonga Lake. This bird may be heard calling at all hours of the day, even in the broad daylight, and is frequently visible as he moves noiselessly from tree to tree. In this little bush reserve I am endeavouring to cultivate the native flora from all parts of the Island, and the Maoris facetiously say that this particular owl has stationed himself there to keep guard over "Maui's Garden." This diurnal character is quite exceptional; although even in my own garden on Wellington Terrace I have known a Morepork on a dull afternoon, but in broad daylight, truss a sparrow in its talons and bear it off, causing consternation to the whole community of sparrows far and wide, who undoubtedly have the power of conveying information to one another, and assemble accordingly in a sort of noisy indignation meeting.

I found this little Owl very numerous in the *Fagus* forests of the interior, its nervous call always commencing as soon as the gloom of evening covers the silent woods. During wet nights it appears to feed on the large brown beetle (*Prionoplus reticularis*), which flies in the rain.

**Sceloglaux albifacies**, Gray. (The Laughing Owl.)

This fine Owl is now on the verge of extinction; indeed, I have made such persistent efforts all over the country to obtain specimens, since my return from Europe about three years ago, that I think it highly probable the single live pair which I have been fortunate enough to procure will be the last we shall ever get. These have been sent to England, and will be kept in an aviary specially prepared for them. Seeing that the single bird belonging to the Canterbury Acclimatisation Society lived in confinement some eighteen years, and laid an unfertilised egg (now in the Canterbury Museum) shortly before its death, we may reasonably hope that my captive birds will breed in their new home, and that in this way the race will be perpetuated.

Mr. W. W. Smith, of Ashburton, who has been indefatigable in his efforts to obtain specimens for me, writes from Oamaru, "The species inhabited this district plentifully forty years ago, but has now entirely disappeared. I have gathered the castings for miles around, buried in the sand or dust covering the bottom of fissures in the rocks." He attributes the final extirpation of this fine bird to the introduction by the Government of the weasel for the suppression of the rabbit nuisance.

My two live Owls were remarkably docile and gentle, allowing themselves to be handled freely without any attempt to bite or use their claws. When shipped to England they were in very handsome condition. The female (always the finer bird among this class) had the face almost perfectly white, the feathers composing the disc having black hair-like shafts and filaments, and those along the outer edges, composing the fringe, having black centres; wing-coverts presenting numerous large rounded spots of yellowish-white, their markings increasing in size and becoming lozenge-shaped on the scapulars, there being one on each vane, that on the outer vane being very white and conspicuous; transverse bars on upper surface of tail broad but obscurely marked. Bill bluish-grey, yellowish towards the tip and along the cutting-edge; cere pale greenish-yellow; irides dark lustrous-brown, almost black; toes pale-yellow, the claws grey, with darker points.

The other bird (which I assume to be a male) is scarcely inferior in size, but has the plumage generally duller, the white markings less conspicuous, with the bill and feet paler-coloured.

The latter, on being taken from its cage to be photographed by Mr. Henry Wright, manifested so persistent a desire to get away from the light, and to hide itself in the shade of the ferns among which I had placed it, that it was very difficult to obtain a momentary shot in focus, although in the end the result was a highly satisfactory one. During the day it had a listless, dazed look, and generally kept its eyes partly closed. The only occasion on which I saw it awake from this lethargy was when I brought a live Hawk (*Circus gouldi*) near to the wire-netting of its enclosure. It did not then manifest any excitement or alarm, but slowly raised itself up to its full height two or three times in succession, with the feathers of the head puffed out and the eyes opened to their full extent, in silent wonderment at so strange an apparition.

Both birds exhibited the same natural docility. On being taken hold of by the feet they would offer no resistance and utter no sound, but would simply flap their wings slowly, and turn their dark orbs full into the face of their captor, as much as to say, "And, pray, what may this mean?" They ate very sparingly of their food (lean mutton or sliced ox-heart), and always at night. During the time they were in my possession I never heard them emit any sound.

Mr. Morgan Carkeek, on seeing mine, assured me that he had seen one of these Owls before. It was some years ago, when he was surveying for the Government in the neighbourhood of Porirua Harbour. On entering an abandoned Maori hut in the day-time he found one "roosting" there. It was very tame, and remained there several days. He brought it

food from time to time, and it made no attempt to escape from the hut. To the Maoris of his survey party it was quite a new bird.

Mr. Jacobs, the taxidermist at Masterton, has given me a characteristic account of a very fine one which he obtained alive at Nelson, and afterwards mounted for the local Museum. A man, so he informed me, was travelling from Nelson to the West Coast, when he observed a large Owl squatting on the ground near the roadside. He dismounted from his horse and caught the bird. Then, selecting a retired nook in the adjoining woods, he drove a thick pole into the ground and secured his captive to it by the leg, allowing a sufficient length of flax to permit of the Owl moving freely about over the ground. On his return by the same road two days later he found that the bird had snapped, or in some way had got disengaged from, the flax string, and was perched on the top of the pole, permitting itself to be recaptured without the slightest resistance. He took it on with him to Nelson, and, not knowing its value, sold it to the narrator for a few shillings. It now graces the collection in the Nelson Museum.

***Harpa novæ-zealandiæ*, Gmelin. (The Sparrow-hawk.)**

This is becoming one of the rarest species, which is difficult to account for, seeing that the zeal of our acclimatisation societies has added so much to its bill of fare by the introduction of sparrows and numerous other small birds. As an illustration of this, I may mention that on a recent occasion I was riding with a Maori youth from Ohau to Manakau when a Sparrow-hawk flew across the road. My companion asked what it was, never having seen one before, although he had lived in the district all his life.

***Himantopus novæ-zealandiæ*, Gould. (The Black Stilt.)**

The following is a description of an almost entire albino which I lately had the opportunity of examining: The whole of the plumage is white, stained more or less with ash-grey, especially on the upper parts, being darkest on the crown and sides of the head; among the wing-coverts and in the region of the back a few widely-scattered black feathers; quills and tail-feathers white freckled with grey; inner lining of wings dark ash-grey as on the crown. Bill and feet normal.

***Gygis alba*, Sparrm. (The White Tern.)**

I have received a beautiful specimen of this snow-white bird from the Kermadec Islands, from which locality Mr. T. F. Cheeseman has already added it to our list of species.

**Sterna nereis**, Gould. (The Little White Tern.)

It is not often that this species leaves the sea-coast; but on a recent occasion I observed a pair of them fishing in fresh water on the Papaitonga Lake, several miles from the sea. They were dipping into the water, with a tiny splash, at rapid intervals, and, as there can be no whitebait at this season (December), I much fear that they were regaling themselves on the fry of Loch Leven trout, of which I lately placed six thousand in the lake.

**Ocydromus australis**, Sparrm. (The South Island Woodhen.)

In spite of its feebleness of wing, this species continues to hold its own in many districts of the South Island. It is very prolific, and breeds freely in confinement. Mr. W. W. Smith, of Ashburton, sent me a fine series of eggs which had been laid by birds in captivity. In the letter accompanying them he says, "I have one pair of these birds that has reared two broods, and has a third three weeks old. I took the young away much earlier than the parents would have left them, which made them lay much sooner. I have another bird which has laid sixteen eggs. My efforts to procure a hybrid between the Game-cock and Weka have not so far been successful, but I shall persevere with my experiments, and may ultimately succeed."

I learn from Sir George Grey that those which he brought from the South Island and turned loose on Kawau in 1863 increased rapidly, and soon stocked that island.

**Ocydromus greyi**, Buller. (The North Island Woodhen.)

I received on the 6th January from Captain Mair two newly-hatched chicks of this species, obtained on the banks of the Manawatu River. They were thickly covered with silky down of a uniform brownish-black colour.

**Ocydromus earli**, Gray. (The Brown Woodhen.)

I have received a fine series of specimens from the valley of the Heaphy, where this Woodhen appears to be the common species. As stated in my account of the species ("Birds of New Zealand," vol. i., p. 115), Reischek met with it on Mount Alexander and afterwards on Cooper's Island, as well as on the mainland opposite, so that the range of the bird appears to extend all the way down the coast.

**Ocydromus fuscus**, Dubus. (The Black Woodhen.)

I have lately obtained a living pair from the West Coast sounds. Like the other species, they are almost omnivorous, and large feeders, and I have noticed that they have a great

partiality for the common garden snail, breaking the shell by a prod of their powerful bills and tearing out the contents after the manner of a true expert. Doubtless the common Woodhen would do the same, in which case it would be a most valuable introduction into gardens infested with snails, as most of those in Wellington are.

The Black Woodhen has all the habits of the more common species, so fully described elsewhere, but it has a peculiar note, frequently emitted, and responsively, when the birds are together, so much like the clucking of domestic hens that it is difficult to believe one is not in the vicinity of a poultry-yard.

***Ardea maculata*, Latham. (The Little Bittern.)**

I am indebted to Mr. C. A. Barton, of Hokitika, for a specimen of this Bittern, which continues to be one of our rarest species. All the hitherto-recorded examples have come from the South Island.

***Ardea egretta*, Gmelin. (The White Heron.)**

Through the exertions of Mr. St. Clair Liardet, who informs me that he was more than a week in pursuit of the birds before he could get a shot, owing to their extreme shyness, I have received from Collingwood a magnificent pair of the White Heron, or "White Crane," as the colonists prefer to call it. The plumage is of snowy whiteness throughout, and both sexes are furnished with the filamentous dorsal train, which is, however, richer in the male bird.

Almost without exception, New-Zealand-killed examples at all seasons of the year have the bill entirely yellow; but a specimen shot at Lake Te Anau in December last (and now in Mr. Melland's possession) exhibits the entirely-black bill which is a regular seasonal character with this species in India. This particular bird was in beautiful plumage, with ample dorsal mantle of filamentous feathers, being apparently a male.

***Botaurus pœciloptilus*, Wagl. (The New Zealand Bittern.)**

The young differs from the adult in its smaller size and much paler plumage; the blackish-brown on the front and sides of the neck is entirely absent, there being in place thereof a broad central irregular stripe of cinnamon-brown; and the soft spreading plumage is of a pale-tawny colour, with numerous transverse V-shaped markings of pale cinnamon-brown; the brown lanceolate markings on the breast and sides of the body are paler than in the adult, and the plumage of the upper surface of the body is altogether lighter and more largely suffused with tawny-yellow or buff.

This species, formerly so abundant on the west coast of this province, is getting scarce, owing to the draining of the swamps as the inevitable result of systematic settlement.

**Phalacrocorax nycthemerus**, Cab. (The Campbell Island Shag.)

The two sexes are crested, and both appear to have exactly the same plumage in the adult state. My specimens are from Campbell Island, and I have never heard of the occurrence of the species elsewhere.

**Diomedea regia**, Buller. (The Royal Albatros.)

I have compared male and female specimens obtained on the east coast of Otago, and I can detect no difference whatever between the sexes, except that the male has a somewhat thicker bill. The female may have a little more white on the upper surface of wings, but this character is a variable one.

**Diomedea exulans**, Linn. (The Wandering Albatros.)

Specimen received in the flesh from Captain Fairchild, who took it himself off the nest with a nestling beside it. This is a parti-coloured bird, in what I take to be the intermediate or transitional plumage, perhaps that of the second or third year, or even later. Upper surface blackish-brown, darker on the wings and tail; band across the forehead, immediately above the bill, with the whole of the face and throat pure-white; neck and fore-part of breast sooty-brown, paler on the anterior edge, broken and freckled on the lower margins; lower part of breast and abdomen pure-white, largely freckled on the sides of the body with brown; flanks, vent, and under tail-coverts sooty-brown; wing-feathers black with white shafts; lining of wings pure-white, varied with black on the outer edge; tail-feathers black, the shafts white at the base. No white markings on the upper surface of the wings.

It is notoriously difficult to rear the young of the Albatros; indeed, it is generally considered an impossibility. But at Government House there is now a fine bird, in perfect first year's plumage, which was brought there as a down-covered nestling four months ago. It has the freedom of a small enclosure, and is fed almost exclusively on fish.

**Diomedea cauta**, Gould. (The Shy Albatros.)

The first mate of the "Hinemoa," Mr. Bethune (who showed me the heads of all the species), assured me that *Diomedea cauta*, which is appreciably larger than *D. culminata*, is found only on the Bounty Islands. Both these species are furnished with the peculiar moustachial membranes already



described, which they disclose by raising the feathers when irritated or excited. Captain Fairchild says, "All the Albatrosses on Antipodes Island are dark birds" (*D. exulans*). *Diomedea regia* is never found there; and, so far as I can learn, *D. regia* is the only species that inhabits Campbell Island.

**Phœbetria fuliginosa**, Gmelin. (The Sooty Albatross.)

The egg of this species, as described in "The Birds of New Zealand" (vol. ii., p. 206), is more or less spotted, especially towards the larger pole; but one of the officers on board the "Hinemoa" has a specimen in his possession which is perfectly white; and I find that Dr. Kidder, in his description of the birds of Kerguelen's Island, says of this species, "The egg is single, white, and very long in proportion to its thickness." On its nesting habits he gives the following interesting particulars: "October 24: Two of the Dusky Albatrosses had made a nest upon a shelf formed by a considerable tuft of cabbage and *Azorella* at the entrance of a small cavity in the perpendicular face of a lofty rock, near the top of a hill some two miles away. Here the birds could be both seen and heard. Their scream is very loud, and not unlike one of the calls of a cat. At a distance it has often been mistaken for the hail of a man. The name 'Pee-arr' has been given as descriptive of this call, which is, I believe, peculiar to the breeding-season. Another pair was seen same day circling around the same hilltop. No eggs.—November 2: Secured one egg and both birds. The nest is a conical mound, 7in. or 8in. high, hollowed into a cup at the top, and lined rudely with grass. The male was sitting when captured; the female standing on another old nest not far away, but higher up the face of the rock. There was no evidence of an intention to rebuild the old nest. Both birds, but particularly the male, showed fight when approached, clattering their large bills with an odd noise, and biting viciously when they got a chance. The male is perceptibly the larger bird of the two. Although I have often observed the Dusky Albatross sailing along very close to the surface of the water, or circling round rocky hilltops, I have never seen it feed, except in captivity. Then both birds ate freely of fresh meat. The peculiar call, which can be heard for a very long distance, is most often given by the sitting bird, and answered by its mate flying near by. . . .—November 12: I found another bird on a nest in a locality similar to that already described. It stared stupidly at me, clattering its beak, and turning its head from side to side, but making no effort to escape. There was no egg. The narrow line of white feathers above and behind the eyes gives these birds a singular and striking appearance—a

sort of wide-eyed, amazed air that distinguishes them markedly from other birds. The white feathers are very minute, but quite perfect. This last-mentioned nest was shortly after abandoned by the bird; apparently because it had been disturbed. Another bird was found sitting on an egg on November 22, high in the rocks, and some four miles inland."

Captain Fairchild brought me, in July, a pair in the flesh, which he had shot off Cape Palliser—the first time, as he informs me, he has met with the species so far north. The broad white mark which encircles the eyes, except in front, is particularly conspicuous in the male bird; and the white shafts in the feathers of the tail, which is rather long and acuminate, are a very pronounced feature. Bill ivory-black, with a pale-blue line near the cutting-edge of the lower mandible, running off to a point in front of the terminal expansion; feet pinkish flesh-white, clouded with grey at the joints, on the interdigital webs, and along the outer edge of the foot; claws white-horn colour; irides rich dark-brown. Length, 36in.; extent of wings, 82·5in.

***Œstrelata cookii*, Gray. (Cook's Petrel.)**

I find that the size of this species is variable, a specimen sent to me by Mr. Reeves, of Mokohinou Island, measuring in the wing, from flexure to the tip, only 8·2in. Bill ebony-black; legs and feet yellowish-grey, shading into greyish-black on the outer toe; webs darker.

***Œstrelata lessoni*, Garnot. (The White-headed Petrel.)**

Of this rare species—two examples of which, from the Auckland Islands, were exhibited by me at a former meeting of this Society—Dr. Kidder obtained only one specimen on Kerguelen's Island. On December 29 it was brought home alive by one of the men, having been dug out of a very deep burrow by the dog, at a considerable distance inland, and well up among the hills. He describes the tarsus and foot as flesh-pink, black along upper surfaces of digits and on the web near the claw, and the irides as very dark brown. He states that he saw them following the ship on the 18th January, about seven hundred miles north of Kerguelen, but unfortunately gives us no further particulars.

***Halobæna cærulea*, Gmelin. (The Blue Petrel.)**

This species of Petrel, although plentiful in certain localities elsewhere, is very rarely found on the New Zealand coast. Dr. Kidder writes that, "upon first landing on Kerguelen's Island (September 13), the hillsides, apparently quite deserted during the day, became at night perfectly alive with these birds and a species of *Pelecanoides* (*P. urinatrix*, Gm.), flying

irregularly about the rocks and the hummocks of *Azorella*, and filling the air with their call. The note much resembles the cooing of pigeons, consisting of three short notes repeated in rapid succession and followed by two long ones, thus: 'Kük-kük-kük-cōō-cōō.' They seemed rarely to fly over the water, but to confine themselves to the neighbourhood of their burrows, sometimes alighting and again taking wing, very much as if there were legions of bats inhabiting the hill. I never succeeded in satisfying myself as to the object of this constant flight during the night, although I spent much time in watching them, since, so far as my observation extended, there were no night-flying insects whatever upon the island, nor did the structure of the stomachs of these birds seem fitted to an insect diet. The burrows are excavated beneath the mounds of an umbelliferous plant which abounds on the Kerguelen hillside (*Azorella selago*, Hook.), growing in dense masses of often several feet in diameter. The holes usually run straight inward for a foot or more, then turn sharply to the right or left, parallel with the hillside, thence downward, often doubling once or twice upon themselves, and communicating with other entrances. At the bottom is an enlarged cavity, lined with pine-root fibres, twigs, ferns, or leaves of the 'Kerguelen tea' (*Acæna affinis*, Hook.), and quite dry. Here the single egg is to be found, always quite covered with dry powdered earth or the leaves above mentioned. The diameter of the burrows at their entrance is about that of a man's wrist. Upon our first arrival two birds, male and female, were usually found in each burrow during the day. After they began to fly, however, but a single one was to be found with the egg, usually, but not always, the female. When set free in the day-time, the mode of flight was irregular, as if the light were confusing to the bird. They always alighted in the water, after flying a mile or so. The noise of their calling was incessant during the night, coming quite as often from the burrows as from the air, but became much less frequent after the middle of November, from which I infer that the call is connected with the season of pairing. The egg is white, single, and measures 1.9-2in. by 1.45-1.55in. The first egg was found the 23rd October, although doubtless they begin to lay earlier. A young bird covered with slate-coloured down was found the 12th November, and frequently thereafter. The traveller who should visit Kerguelen's Island only during the day, returning to his ship every night, might easily fail to observe the presence of these birds at all, since, in the neighbourhood of their burrows, they are exclusively nocturnal in their habits, being perhaps the very latest to appear after nightfall. They are, however, often seen at sea during the day, many hundreds of miles from land."

**Thalassœca glacialoides**, Smith. (The Silvery-grey Petrel.)

Mr. F. Sandager writes to me of this rare species (under date of 1st October), "To-day, as I was going along the beach at Moeraki, a species of *Procellarius* came in. By means of your 'Manual' I had no difficulty in identifying it as *P. glacialoides*."

**Puffinus assimilis**, Gould. (The Allied Shearwater.)

Specimen in the flesh received from the Hauraki Gulf has greenish-grey feet, with yellow interdigital webs, marked with black on the outer edge; bill bluish-black.

**Puffinus gavia**, Forst. (Forster's Shearwater.)

Of this apparently rare Petrel I have received several fresh specimens from Mokohinou Island. Bill blackish-brown, changing to grey on lower mandible; legs and feet yellow, changing to blackish-brown on outer side of tarsus and along edge of outer toe; claws and interdigital webs black.

**Majaqueus æquinoctialis**, Linn. (The 'Stinker' of Whalers.)

In a former note I mentioned that the officers of the "Hinemoa" had described to me a large Petrel as existing on the Auckland Islands, which is undoubtedly this bird. Dr. Kidder, in the paper already referred to, gives some interesting particulars respecting it. He says, "A single specimen was dug up by the dog on the 12th October, from a very deep burrow under a clump of *Azorella*, but none others were seen until the 15th November, when they suddenly appeared in considerable numbers. On the 16th December I dug up specimens with eggs, and frequently thereafter. They nest in very deep burrows, with almost always a little pool of water at their entrance, and keep up an incessant squealing while the dog is digging for them, very like the sound of the water-whistle toys, or 'whistling coffee-pots,' sold on the street-corners. The note is, in other words, very shrill, and constantly trilling. They fight the dog more bravely than any other Petrels, generally coming out of the burrow hanging to his ear, and keeping him off very successfully on the open ground. The name 'Stinker' is fully warranted by the rank odour emitted by the bird, and is given on the authority of the whalers on the schooner 'Emma Jane.' Captain Fuller, however, of the schooner 'Roswell King,' a very careful observer, tells me that the Stinker is a much larger bird, and that it nests on the ridges of the high hills, not in burrows, and very late in the season. If so, I have never seen it. The egg is single and white. One of the first birds dug up by the dogs after our arrival, on the 15th September, was a large Petrel, covered

everywhere by long, grey, hairy down, and found quite near the station. They were found often afterward, and were much hunted by the dogs as food. From their squealing when captured, the structure of their bills, the depth of the burrows in which they were found, the black plumage of those subsequently taken, and their offensive odour, I supposed them to be the young of *Majaqueus*, but was assured by the whalers that they were 'Mutton-birds,' and of quite a different species. A curious circumstance with regard to them is the fact that I never succeeded in getting any positive clue to the old birds to which they belonged. At different times I set snares in front of the burrows, and sprinkled light dry earth within their entrance, but never captured any birds; nor did I find any tracks upon the earth. It certainly seemed as if the old birds had finally abandoned them. It must be remembered, also, that one of these young birds was found as early as the 15th September, and that I found *Majaqueus* with eggs on the 16th December. The Mutton-birds had certainly not begun to fly before December. Two specimens captured on the 10th November had the body still partially covered with down. The egg is single, regularly ovoid, and white, without shell-markings of any kind. It is generally, however, much soiled by secretions from the oviduct and dirt from the burrows. The shell is thin, homogeneous, and compact in structure, very smooth to the touch, but under the lens is seen to be marked by small pits and shallow linear depressions. The largest obtained measures 3.26in. by 2.17in."

***Pelagodroma marina*, Latham. (The White-faced Petrel.)**

I am indebted to Mr. C. H. Robson for a note stating that he has obtained an egg of this species, and that, instead of being all white, the larger end is sprinkled with reddish-brown spots. He is possibly mistaken in the bird, for I have recently obtained a number of specimens from Otago, together with the skins of the birds, taken from the burrows, and in all cases the shell is entirely white. The egg of *Garrodia nereis* (the Grey-backed Storm-Petrel) is, however, marked in the manner described. He may therefore have confounded the two species.

***Oceanites oceanicus*, Kuhl. (Wilson's Storm-Petrel.)**

Referring to the specimens obtained by Dr. Kidder's expedition on Kerguelen's Land, Dr. Elliott Coues remarks: "I have looked at a great many 'Wilson's Petrels' from various parts of the world without having been able to see any differences between them. In any event, the bird here presented is the original *oceanica* of Banks, Kuhl, &c.; it is the other one, *wilsoni*, Bp., 1824, which is to be cut

away from this one, if any division is attempted. Bonaparte has the thing hind part before in his 'Conspectus.'" Of the habits of this species on shore the following interesting particulars are given: "These birds are crepuscular near the shore, like *Garrodia nereis*, and much more common near our station after their first appearance on the 8th December. I had previously seen them at sea east of the Cape of Good Hope; and on the 14th December I saw them clearly out by day, feeding on the oily matters floating away from the carcase of a sea-elephant. They frequent rocky parts of the hillsides, and flit about very like swallows in pursuit of insects. There seemed to be no flying insects on the island, however, other than very minute gnats. The two specimens preserved were shot on the evening of the 29th December, among the rocks near the top of the hill on which we were encamped. I never succeeded in finding the eggs, but learn from the Rev. Mr. Eaton, who found one on Thumb Mountain, some fifteen miles from our station, that it is single, white, and that the nest was made under a large rock not far from the beach. He found the egg on the 8th December. I have no doubt from what I have observed of its habits that it nests among and under rocks habitually, and usually at a considerable elevation above the sea."

***Hymenolæmus malacorhynchus*, Gmelin. (The Blue Duck.)**

The male bird has a fine metallic-green gloss on the head, neck, and upper surface generally, being brightest on the crown and on the mantle. The female has less gloss, having a wash of bronzy-brown on these parts, this colour being most pronounced on the crown of the head and mantle. A young male (of the first year) has the same brown tinge on the upper surface, but less than in the adult female. In the mature bird the bill, with the exception of the dark terminal membrane, is in life of a beautiful pinky-white colour; in the young bird it is of a bluish-white, with a narrow streak of brown down the centre. Both sexes have the soft feathers which compose the inner lining of the wings more or less tipped with rufous; the male has the under tail-coverts broadly tipped with rufous-red, whilst in the female bird these markings are absent; in the young of both sexes the under tail-coverts are entirely of that colour. The male has the chestnut-red pectoral markings more distinct than in the female. In the young bird they are considerably diminished, each feather having only a minute touch of rufous, with a spot of black beyond, imparting to the breast a speckled effect. The irides of the young bird, which are originally dark, change rapidly to a dull olivaceous-yellow, which becomes golden at maturity. The old birds on being caught utter a peculiar rasping cry; the young has a similar

note but weaker, and when alarmed emits a distinct squeal. The ordinary note of the species is a sibilant whistle, whence it derives its native name, "Wio." (These notes were taken from three birds obtained from the upper waters of the Wai-kanee River, and forwarded alive to Europe.)

**Podiceps rufipectus**, Gray. (The New Zealand Dabchick.)

This interesting little bird is still numerous on the lagoons of the west coast of this province, where, indeed, it appears to be increasing. The pairing season commences in September, and the birds become then very noisy, chattering to each other across the water all day long. At this season it is very amusing to witness the amorous gambols on the water of these otherwise sedate swimmers, with their backs arched and feathers fluffed out, splashing about and chasing each other in the wildest state of excitement.

**Eudyptes antipodum**, Hombr. and Jacq. (The Yellow-crowned Penguin.)

A correspondent, who had one of these Penguins alive for some time, sends me the following note: "When excited it has the habit of erecting all the feathers on the front of the head, and as far back as the yellow band. When thus seen the silky lustre and varying shades of bronze down the sides of the neck are very beautiful."

**Eudyptes vittatus**, Finsch. (The Thick-billed Penguin.)

Of this rare species I have lately received a fine adult pair from the Southland coast.

**Eudyptes sclateri**, Buller. (The Auckland Islands Penguin.)

Of this Penguin, hitherto only known as occurring on the Auckland Islands, I have obtained an adult pair recently killed on the Otago coast.

**Pygoscelis tæniatus**, Peale. (The Rockhopper.)

My authority for including this Penguin among the birds of this country was a pair in the Otago Museum, obtained from Macquarie Islands, where this bird is said to be plentiful. Dr. Kidder found it very abundant in Kerguelen's Land. He writes, "Two or three of the birds were captured by the boat's crew which went on shore after the eggs, and brought back to the ship, where they created a good deal of amusement. When walking away from the spectator, swaying from side to side, with flippers hanging well away from the body, they have a ridiculous resemblance to small children just beginning to walk; who have put on overcoats much too long

for them. . . . No living thing that I ever saw expresses so graphically a state of hurry as a Penguin when trying to escape. Its neck is stretched out, flippers whirring like the sails of a windmill, and body wagging from side to side, as its short legs make stumbling and frantic efforts to get over the ground. There is such an expression of anxiety written all over the bird; it picks itself up from every fall, and stumbles again, with such an air of having an armful of bundles, that it escapes capture quite as often by the laughter of the pursuer as by its own really considerable speed. On the 3rd December, about the time of hatching, I observed a school of these Penguins progressing by leaps clear of the water; one following another in so rapid succession that two or three were always in the air, and with a motion so like that of porpoises that I at first took them for those marine mammals. In the water, indeed, all awkwardness at once disappears, their speed in swimming being almost incredible, and surpassing, of course, that of the fish upon which they feed. On the 4th December I found one young Penguin just hatched, and three more still in the eggs, which they had broken with their beaks. The young are covered with soft, hairy, pearl-grey down; head black, above and behind."

***Aptenodytes longirostris*, Scop. (The King Penguin.)**

In connection with the full account which I gave of this species, from Macquarie Island, in last year's volume, the following note by Dr. Kidder is worth reproducing. I commented on the extremely gentle nature of my birds; Dr. Kidder's experience with one, at least, on Kerguelen's Land appears to have been different. He says, "The first specimens of this Penguin found near our station were met with on the beach on the 26th November, having apparently just come out of the water. There was but a single pair, both of which were secured, one being brought home alive. The other fought so fiercely that I had to kill him to get him home. . . . I endeavoured to keep the other alive, tying it up on the beach with a good long line to its leg. It would spend a large part of every day, at the end of its line, splashing in the water. It finally entangled itself in the seaweed near the bottom, and was drowned during the night. It slept bolt upright, balanced on its heels, swaying back and forth as it breathed, and snoring heavily. The neck is very extensible, so much so that the bird can stand at least a foot taller when excited than when at rest. It will frequently remain for twelve hours standing in the same place, and seems to me to be in every way a stupider bird than either *Pygoscelis* or *Eudyptes*. When thrown down it raises itself by aid of its beak, pressing the point against a stone. . . . Captain Fuller, of the



schooner 'Roswell King,' informs me that they build no nests whatever, carrying the egg about in a pouch between the legs, and only laying it down for the purpose of changing it from male to female. The pouch, if there is one, can be no more than a fold of the skin, since none was noticed in skinning or measuring the specimens."

In my account of this species ("Birds of New Zealand," vol. ii., pp. 306, 307) I omitted to mention, on the authority of Professor Hutton, that in 1878 a live one was taken on the coast at Moeraki, and forwarded to the Otago Museum.

**Apteryx bulleri**, Sharpe. (The North Island Kiwi.)

Of late a good many examples have been obtained in the wooded district south of New Plymouth, which is fast being occupied by settlers. In August last a nest containing two eggs was discovered by a man who was felling bush on the property of Messrs. Stretton and Jobson. These specimens are now in Mr. Drew's interesting little museum at Wanganui, and one of them, before being emptied of its contents, was found to weigh 15oz. 90gr.

Examples from certain localities are very dark in their colouring, being almost black, even the tarsi and toes being brownish-black.

**Apteryx australis**, Shaw. (The South Island Kiwi.)

I recently received a live example of this species from Milford Sound, and kept it for a time in my enclosure. At a glance its distinctness from *Apteryx maxima* was apparent. Its white-horn-coloured bill and its flesh-white feet, the streaky character of the plumage, owing to a light-brown stripe down the centre of each feather, irrespective of its smaller size, make it readily distinguishable from the last-named species. On placing the bird in the Kiwi-yard it was at home at once, retiring into the empty cask provided for it. In disposition this bird differs entirely from my other captive Kiwis—*Apteryx maxima*, *Apteryx haasti*, and *Apteryx oweni*—being far more fierce and aggressive. On approaching the cask, soon after he had taken up his quarters there, the bird came out and gave battle at once, even in the daylight, grunting angrily and striking forward with his feet, which are armed with very sharp claws.

This bird, although in excellent condition, died suddenly without any apparent cause. Possibly it accidentally got at some poison which had been deposited in a rat-hole. It gave the following measurements: Extreme length, to end of tail, 28in.; to end of outstretched legs, 34·5in.; culmen (measuring from anterior edge of fleshy cere), 5·25in.; along edge of lower mandible, 6in.; tarsus, 3in.; middle toe and claw, 3·5in.;

hallux, 0·75in.; largest circumference of foot, 3·75in.; rudimentary wing, from flexure to end of spur, 1·4in. The spur on each wing is a mere claw 0·25in. in length, and white with a greyish point. As already mentioned, the feet are white, but there are small brown scales on the heel and hind part of tarsus. The tarsus presents a regular line of angular scutella in front, and the claws are perfectly white. In all these points this species differs from *Apteryx maxima*. In addition to the features already recorded, which distinguish this bird from *Apteryx bulleri*, there is another which is worth mentioning: the feathers of the under-parts have the peculiar silvery or shining shafts characteristic of the moa-feathers which Mr. Taylor White collected some years ago at Queens-town.

***Apteryx oweni*, Gould. (The Grey Kiwi.)**

I have received some specimens of this bird from Mr. J. Brough, of Nelson, differing from those obtained further south by the regular and distinct character of the barred and mottled markings on the plumage of both upper and lower surfaces. My correspondent says, "The birds sent are from the Upper Buller. This species inhabits the dense bush, and seems to prefer dark and gloomy gullies, where the sun scarcely ever penetrates, and where the underscrub is almost always dripping-wet. In such places you will sometimes get a whole colony. The most I ever got in one batch was twenty-six birds, at the head of a gully such as I have described. For feeding they select mossy ground with few stones. Their favourite places are where a young growth of birch-trees has replaced the old forest. Individuals differ, however, very much in their habits. You will see by the sharpness of their claws that the ground roamed over by these birds is very soft. They camp by day in holes of fallen trunks of trees, and come out in the evening to feed."

I had several of these birds in confinement, at the same time as the other species, and was impressed with their extreme gentleness of disposition as compared with *Apteryx maxima* and *Apteryx australis*. They are even more docile than *Apteryx haasti*, allowing themselves to be handled almost without resistance, seldom striking with their feet, and only expressing their alarm or annoyance by an audible snapping of the mandibles. They require, too, to be handled gently, as the feathers come out on the slightest rough usage.

Mr. C. Robinson, who has spent much time in the South Island collecting Kiwis, brought me lately for examination an egg of this species. It is broadly ovoido-elliptical, measuring 4·4in. in length by 3in. in breadth; milky-white, and with a slightly-polished surface, which shows a little discoloration

from contact with the bird's feet during incubation. He found it in a hole formed by manuka-roots, and well concealed by the grass; but the dog scented it out and killed the bird on the nest. This was in September, 1888.

***Apteryx haasti*, Potts. (The Large Spotted Kiwi.)**

Lovers of natural history will be glad to learn that this very rare species of Kiwi from the South Island—of which there is only a pair in the Canterbury Museum, placed there twenty years ago, and not another known specimen in any other public museum, either in the colonies or in Europe—has been successfully introduced into the North Island. Some months ago I received a fine pair from the South, and, after keeping them for some time in my Kiwi enclosure in order to study their habits, I liberated them on a wooded island, a little over an acre in extent, near my homestead at Papaitonga. I placed on the island at the same time a pair of the small Grey Kiwi (*Apteryx oweni*), and, a short time previously, a single North Island Kiwi (*Apteryx bulleri*), kindly presented to me by Mr. Drew, of Wanganui, for that purpose. The locality is admirably suited to such an experiment, the ground being similar to that which the Kiwi frequents in its natural state, and well covered with native vegetation. Being on an island surrounded by a fresh-water lake about 150 acres in extent, and all within my private property, they are not likely to be molested in any way. But to prevent any chance of Maori depredations in the breeding-season I have also placed on the island three large live tuataras, kindly supplied to me by Captain Fairchild. The fame of these lizards, of which the Maoris have a most unaccountable dread, has spread far and wide. I have named them after three noted dragons of the past, Peketahi, Whangaimokopuna, and Horomatangi; and the Kiwis could not have three better guardians, for with this dread of the *ngarara* no Maori will ever willingly set foot on the island. The birds are apparently doing well, for their shrill calls—the male and female responsively—may be heard every night, the effect across the still waters of the lake being very pleasing. I had intended to add a pair of Kakapo (*Stringops habroptilus*) to this little island community, but, unfortunately, one of them died, and the other effected its escape before I could accomplish my object. I fear I shall not now have an opportunity of doing this till after my return from England. The Kiwis, however, may be looked upon as fairly established there; and it will be interesting to note whether, within their now circumscribed home, the three species will interbreed or not. An experiment of this kind could not be carried out under more favourable conditions, and I shall not fail to inform the Society hereafter as to the result.

In the Hon. Walter Rothschild's beautiful collection of New Zealand birds at Tring Park there are two partial albinos of this species. They are male and female. The former has the crown of the head, face, throat, and an irregular narrow stripe down the fore-neck dull greyish-white; on the shoulder, breast, and back there are likewise a few scattered feathers of pure-white. The female, which is an exceptionally large specimen, has a broad, irregular, transverse band of yellowish-white on the under-part of the body; rest of the plumage normal.

From a fresh specimen I obtained the following measurements:—*Adult* ♀. Length, to end of tail 29in., to end of outstretched legs 41in.; culmen, from anterior edge of cere to the tip, 5.25in.; along the edge of lower mandible, from the angle of the mouth, 6.25in.; tarsus, 3.50in.; middle toe and claw, 3.50in. (the claw being 1in.); hallux, 0.75in.; median circumference of tarsus, 2.50in.; circumference at junction of phalanges, 4.25in.; humerus, 2in.; cubitus, 1.50in.; spur, 0.25in.

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ART. XI.—*On the Fissures and Caves at the Castle Rocks, Southland; with a Description of the Remains of the Existing and Extinct Birds found in them.*

By A. HAMILTON.

[Read before the Otago Institute, 10th May, 1892.]

Plates VII., VIII.

A FEW miles south of Lumsden, on the right bank of the Oreti River, Southland, an outcrop of limestone occurs at a place called the Castle Rocks. Here denudation has exposed the beds of limestone, which are tilted at a high angle, and huge masses of rock have become detached, and have fallen, slipped, or rolled to a resting-place on the spurs of the steep hillsides or down to the valley beneath. The enormous size of the blocks, and the confusion in which they are piled, recalls many a memory of ancient and picturesque ruins on historic sites.

In this part of the world we are but now making history, and comparatively little of Nature's record of past centuries has yet been read. Hidden in these Castle Rocks my friend Mr. Mitchell and I have been privileged to find a very interesting, even if still imperfect, chapter of the unwritten record of the past.

For convenience I shall use the first person in writing these notes; but it must be understood that Mr. Barnhill, of the