

which originally formed a steep slope to the raised beach below. The remains were discovered at a depth of about 45 feet from the surface of the slope, and about 40 feet in from the base, in apparently undisturbed sandy loam. My own opinion is—from having, thirty to forty years ago, seen remarkably large and deep new rents and fissures in the sloping sides of our Hawke's Bay hills, caused by earthquakes, many of them afterwards closing up,—that anciently this little animal, at some such a season, fell into one of those deep rents, and so perished.

In conclusion, I may observe that Dr. Newman also says:—"Three species of *Sphenodon*, unlike in form and colour, have been discovered: 1. *Sphenodon punctatum*, black and spotted; 2. *S.* (unnamed), green and yellow; 3. *S. guntheri*, lighter. The dark form is found in the North, the intermediate at East Cape Islet, and the lighter form in the South. *S. punctatum* was the form so elaborately described by Dr. Günther. The other species have not been anatomically examined."\*

Dr. Günther also mentions the possibility of there being two species, although, from the smallness of the material before him at that time (1867,) he does not support it.

Such, however, being the case, and these (few) bones not wholly agreeing with those of *Sphenodon punctatum*, I have named this species *Sphenodon diversum*, but only provisionally, as on further examination of both this and of better specimens, and a closer comparison of them with the bones of those two other specimens mentioned by Dr. Newman, may yet show that these belong to one of those two species.

P.S.—The ordinary meeting of the Hawke's Bay Philosophical Institute, to be held this evening, being the last for this season and year, I have been very desirous of bringing this paper before you, and have only been able to finish it this day.

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ART. XXIV.—*A List of the Native Birds of the Petane District, Hawke's Bay, with Notes and Observations.*

By A. HAMILTON, of Petane.

[Read before the Hawke's Bay Philosophical Institute, 1885.]

THE district over which the birds occur, enumerated in the following paper, may be defined as the country lying between the two rivers, the Tutaekuri and the Mohaka. Included between these natural boundaries will be found a great diversity of feeding ground for the various kinds of birds, the tidal flats and estuaries of the Inner Harbour of Napier, the river-beds of the

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\**l. c.*, pp. 222, 223.

Esk and its tributaries, the fern-covered hills near the Mohaka, and the bush at Pohue, with the smaller patches of bush still remaining in many places at the heads of valleys; all these combine to furnish a very fair proportion of genera and species. The beautiful bay itself is visited in stormy weather by a number of oceanic species, many of which still remain unrecorded. Much remains to be done in ascertaining the local distribution of our New Zealand birds, and, as a contribution to this end, it is hoped that this list may be of service.

1. *HIERACIDEA NOVÆ-ZEALANDIÆ*, *Lath.*—Quail Hawk.

This beautiful little hawk is not at all common in the district. I have only seen it four times in six years. It is curious to find this bird so scarce, as it is rarely destroyed by man, and can scarcely have any natural enemies.

3. *CIRCUS GOULDI*, *Bonap.*—Harrier.

Now this species has been persecuted and destroyed in considerable numbers for many years past, by gun and trap, in the interests of imported game birds; and yet it is almost ubiquitous, and may be seen from sun-rise to sun-set sweeping in wide circles over the hills. The reward offered by the Acclimatization Society for their destruction caused the death of a very large number, their carrion-loving propensities bringing them to an ignominious fate in the rat-trap. The damage done to the game birds by hawks is, I am inclined to think, very small compared with the ravages of the cats which infest the country, and, to a lesser extent, by the weka (*Ocydromus*). That the hawk varies its diet by occasionally devouring eels I can affirm, having, as I found by reference to my notes, twice surprised hawks feeding on them in the bed of a shallow creek.

5. *ATHENE NOVÆ-ZEALANDIÆ*, *Gml.*—Morepork.

8. *HALCYON VAGANS*, *Less.*—Kingfisher.

Builds, or rather makes its nesting-place, in sandy cliffs at the edge of the Petane river-bed. Last season there were five nests made in the face of a bank, the holes reminding one of the sand martins in England. The holes were about five feet from the base of the cliff, and penetrated to a depth of three feet, and contained on an average five eggs each. I am informed by a person who took some of the eggs, that there was a considerable range of variation in both size and shape.

During the breeding season we do not see much of these birds, but when the young brood are fledged—and especially if the weather be wet and the ground soft—they become one of the most obtrusive of our feathered friends. On several occasions I have seen kingfishers in the act of killing and eating mice, and instances have been reported of their killing small partly-fledged birds.

10. *PROSTHEMADERA NOVÆ-ZEALANDIÆ*, *Gml.*—Tui.

Frequent in the bush. Occasionally visiting the cultivated lands and the neighbourhood of the houses, when the blue gums are in flower.

13. *ZOSTEROPS LATERALIS*, *Lath.*—White-eye, Blight Bird.

One of our best friends, and abundant in all parts of the district. The history of the invasion of New Zealand by this bird is one of the most interesting chapters in our zoological record.

19. *SPHENCEACUS PUNCTATUS*, *Q. & G.*—Fern Bird.

The peculiar chirp of this lively little bird is yet to be heard among the tall fern, though it is not so plentiful as in days gone by. It is probably diminishing in numbers before the march of civilization.

22. *GERYGONE FLAVIVENTRIS*, *Gray.*—Warbler.

In every garden and grove of trees.

26. *PETROICA TOITOI*, *Less.*—Pied Tit.

28. *PETROICA LONGIPES*, *Less.*—Wood Robin.

31. *ANTHUS NOVÆ-ZEALANDIÆ*, *Gml.*—Lark.

An egg was found this year quite pink ; three other eggs in the same nest were perfectly normal.

34. *RHIPIDURA FLABELLIFERA*, *Gml.*—Pied Fantail.

35. *RHIPIDURA FULIGINOSA*, *Sparrm.*—Black Fantail.

I obtained a specimen of this bird in the Pohue Bush, about 20 miles north of Napier, July 7th. I have seen it occasionally nearer Napier. In 1876 I got two or three in the Horokiwi District, near Wellington. Several other instances are recorded in the volumes of the Transactions; and probably it will be found that, though much more plentiful in the South Island, it should be considered a species common to both islands.

43. *PLATYCERCUS NOVÆ-ZEALANDIÆ*, *Sparrm.*—Parrakeet.

47. *NESTOR MERIDIONALIS*, *Gml.*—Kaka.

This bird, like the tui, comes down to the gum-trees when they are in flower. In the bush parts of the district it is common.

50. *EUDYNAMIS TAITENSIS*, *Sparrm.*—Long-tailed Cuckoo.

The long-tailed cuckoo pays us a yearly visit, and this season a solitary bird remained in the Petane Valley very much later than usual, as I saw it several times during the last week of March. Has any instance been recorded of its remaining in the country, or would this bird have to take its journey of 1,500 or 1,600 miles to the Society or Friendly Islands by itself?

51. *CHRYSOCOCYX LUCIDUS*, *Gml.*—Shining Cuckoo.

Our bronze cuckoo is always welcome as the herald "of sunny days to be," and has yet another claim upon us as a practical destroyer of some of our insect pests. Mr. Gilbert, of Taradale, has informed me that for some seasons past he has noticed these birds feeding on the different scales and blights so much dreaded by all horticulturists; and he is convinced that they do a large amount of good. It is well that the services thus rendered by our summer guest should be published abroad, as it may restrain the murderous instincts of some of those who, if they see a pretty bird, must needs immediately try and shoot it.

52. *CARPOPHAGA NOVÆ-ZEALANDIÆ*, *Gml.*—Pigeon.54. *APTERYX MANTELLI*, *Bart.*

Two specimens were taken alive in the Pohue Bush in 1880, and I believe it is still to be found on the slopes of Maungaharuru.

59. *CHARADRIUS OBSCURUS*, *Gml.*—Red-breasted Plover.60. *CHARADRIUS BICINCTUS*, *Jard.*—Dotterel.

Breeds on the river-beds. The eggs vary considerably in density of marking.

65. *HÆMATOPUS LONGIROSTRIS*, *Viell.*—Red-bill.66. *HÆMATOPUS UNICOLOR*, *Forst.*—Black Red-bill.

Both of the Red-bills frequent the sandy shoals and banks near the Port Ahuriri bridge.

69. *ARDEA SACRA*, *Gml.*—Blue Heron.

Although this bird occurs plentifully both north and south of the bay, I have only seen one specimen, which was resting on the western spit.

71. *ARDEA PÆCILOPTERA*, *Wagl.*—Bittern.

This noble bird is remarkably numerous in the lagoons and swamps of the district. I have frequently seen during this month (April) as many as nine in sight at one time in the lagoon by the side of the Taupo Road, at Petane. Some years ago, when shooting at Tongoio, I put up sixteen in one day.

75. *LIMOSA BAUERI*, *Naum.*—Godwit.79. *HIMANTOPUS LEUCOCEPHALUS*, *Gould.*—Pied Stilt.80. *HIMANTOPUS NOVÆ-ZEALANDIÆ*, *Gould.*—Black Stilt.

Both of these occur very plentifully, and breed on the islands in the harbour and on the river-beds. The vigilance of these birds is extremely annoying when in pursuit of ducks, as their harsh note of warning is quickly appreciated by any ducks in the neighbourhood.

81. *HIMANTOPUS ALBICOLLIS*, *Buller*.—White-necked Stilt.

Occurs not unfrequently.

85. *OCYDROMUS EARLI*, *Gray*.—Wood-hen.

Has increased very much in numbers within the last four or five years, and more especially near the swampy estuaries of the harbour. A nest taken November 10th contained four eggs, and the female bird caught on the nest contained another egg fully developed. The nest was simply a heap of dead grass under a rush bush, in a brackish water swamp.

90. *RALLUS PHILIPPENSIS*, *Linn*.—Striped Rail.

This elegant Rail is more plentiful in this district than I have seen it in any other part of New Zealand, excepting, perhaps, Okarito. The large rush-covered marshes near the mouth of the Petane River seem its chief stronghold. On the 14th March, this year, I caught, with the help of my dog, a female, and one out of a family of five chicks. The young were about half-fledged, and were most curious little things. I exhibited to this Society last year the egg of this bird.

93. *ORTYGOMETRA AFFINIS*, *Gray*.—Water Crake.

A cat belonging to a neighbour has brought me in, during the years 1881–83, seventeen specimens of this Crake, and twelve specimens of the next species (*O. tabuensis*). Both of these birds abound in the raupo swamps of the district, but are extremely difficult to obtain, unless a friendly "mouser" takes the matter in hand.

94. *ORTYGOMETRA TABUENSIS*, *Gml*.—Swamp Crake.

96. *PORPHYRIO MELANOTUS*, *Temm*.—Swamp Hen.

98. *CASARCA VARIEGATA*, *Gml*.—Paradise Duck.

Bred two years ago, in a swamp in the Petane Valley.

100. *ANAS CHLOROTIS*, *Gray*.—Brown Duck.

101. *ANAS SUPERCILIOSA*, *Gml*.—Grey Duck.

Has been crossed with the domestic duck by a gentleman living in the district, as recorded in the Transactions.

102. *RYNCHASPIS VARIEGATA*, *Gould*.—Shoveller, or Spoonbill.

This beautiful species is not at all uncommon about the district. Indeed, I think that in some seasons I have shot as many Spoonbills as Grey Ducks, probably owing to their being more easily approached.

103. *HYMENOLÆMUS MALACORHYNCHUS*, *Gml*.—Blue Duck.

104. *FULIGULA NOVÆ-ZEALANDIÆ*, *Gml*.—Black Teal.

108. *PODICEPS RUFIPECTUS*, *Gray*.—Dab-chick.

Several pairs of these pretty birds breed every year in the Tongoio Lagoon. In March last, I watched for some time a

family party, the two old birds and four young ones, preening their feathers in the sun, and keeping together in a most sociable manner.

111. *LARUS DOMINICANUS*, *Licht.*—Black-backed Gull.

112. *LARUS SCOPULINUS*, *Forst.*—Mackerel Gull.

114. *STERNA CASPIA*, *Pall.*—Large Tern.

115. *STERNA FRONTALIS*, *Gray.*—Sea Swallow.

116. *STERNA ANTARCTICA*, *Forst.*—Common Tern.

117. *STERNA NEREIS*, *Gould.*—Little Tern.

Only after or during heavy weather.

119. *DIOMEDEA EXULANS*, *L.*

120. *DIOMEDEA MELANOPHREYS*, *Boie.*—Mollymawk.

One picked up on the Tongoio beach, March, 1884.

129. *PUFFINUS BREVICAUDUS*, *Brandt.*

130. *PUFFINUS TRISTIS*, *Forst.*—Mutton Bird.

138. *PROCELLARIA FULIGINOSA*, *Kuhl.*—Sooty Petrel.

143. *PRION TURTUR*, *Sol.*—Dove Petrel.

144. *PRION VITTATUS*, *Gml.*—Broad-billed Dove Petrel.

149. *DYSPORUS SERRATOR*, *Banks.*—Gannet.

150. *PHALACROCORAX NOVÆ-HOLLANDIÆ*, *Gould.*—Black Shag.

This bird is at present a proscribed individual, a reward of 1s. 6d. being offered for every head.

156. *PHALACROCORAX BREVIROSTRIS*, *Gould.*—White-throated Shag.

This small Shag breeds in trees by the side of the Petane River, some distance above the confluence of the Kaiwaka Stream.

159. *PHALACROCORAX PUNCTATUS*, *Sparrm.*—Spotted Shag.

Of the Spotted Shag, I have seen but two specimens in the harbour; one was shot at Kaierero in 1882.

169. *EUDYPTES PACHYRHYNCHUS*.—Crested Penguin.

175. *EUDYPTULA MINOR*, (?) *Forst.*

I saw one swimming in the surf in January, 1884. Very scarce on this coast.