

R E S T O R A T I O N

O F

N O T O R N I S.

IN 1847 I detected in a series of bones, chiefly of *Dinornis*, collected by Walter Mantell, Esq., in a deposit of volcanic sand, at Waingongoro, North Island of New Zealand, a mutilated skull indicative of a large bird of the Ralline family, and representing, as it seemed to me, a generic form previously unknown in that family, for which the name NOTORNIS was accordingly proposed¹. A sternum in the same collection of bones, which also presented 'ralline' characters, and might, from its size, have belonged to the same (as then supposed) extinct Coot, led me to define *Notornis* as "a struthious or brevipennate form of the *Rallidæ*, intermediate between *Porphyrio* and *Brachypteryx*"².

Two years later, viz. in 1849, a party of seamen hunting seals on the shores of Dusky Bay, in the south-west angle of the South Island of New Zealand, had their attention attracted by the trail of a bird on the snow, with which the ground happened at that time to be covered. The foot-prints were larger than those of a Kivi or any living bird of which they had then a knowledge in New Zealand, and they followed the track until they came in sight of a retreating bird about the size of a turkey. The dogs of the sealers were cheered on in pursuit, and, after a long chase, the bird was caught in the gully of a sound behind 'Resolution Island.' When chased it made no attempt to fly, but ran with great speed, and upon being captured, uttered loud cries and struggled violently. The bird was rescued from the dogs and kept alive a few days on board the sealers' schooner, when it was killed, and the body roasted and eaten by the crew.

The skin was fortunately preserved, and was obtained by Mr. W. Mantell, at that time visiting the south-west part of the South Island. He transmitted the rarity to his father, Dr. Gideon Mantell, F.R.S., who, in communicating the circumstance to the Zoological Society of London, wrote:—"To the natives of the pahs or villages on the homeward route, and at Wellington (North Island), the bird was a perfect novelty,

¹ *Ante*, p. 173, and 'Proceedings of the Zoological Society of London,' January 11, 1848, p. 1.

² *Ib.* p. 9. The term *Ocydromus* had previously (1830) been proposed for the latter ralline genus by Wagler.

and excited much interest. I may add, that upon comparing the head of the bird with the fossil cranium and mandibles, and the figures and descriptions in the 'Zoological Transactions'¹, my son was at once convinced of their identity; and so delighted was he by the discovery of a living example of one of the supposed extinct contemporaries of the Moas, that he immediately wrote to me, and mentioned that the skull and beaks were alike in the recent and fossil specimens, and that the abbreviated and feeble development of the wings, both in their bones and plumage, were in perfect accordance with the indications afforded by the fossil humerus and sternum found by him at Waingongoro, and now in the British Museum, as pointed out by Professor Owen in the memoir above referred to."

This unique specimen was submitted to the eminent ornithologist, JOHN GOULD, Esq., F.R.S., for description and definition in his great work devoted to the recent avifauna of Australia. From that work I extract the following description of the living *Notornis* by my esteemed friend and fellow-labourer²:—

"The amount of interest which attaches to the present remarkable bird is perhaps greater than that which appertains to any other with which I am acquainted, inasmuch as it is one of the few remaining species of those singular forms which inhabited that supposed remnant of a former continent—New Zealand, and which have been so ably and learnedly described, from their semifossilized remains, by Professor Owen, who, as well as the scientific world in general, cannot fail to be highly gratified by the discovery of a recent example of a form previously known to us solely from a few osteological fragments, and which, but for this fortunate discovery, would in all probability, like the Dodo, have shortly become all but traditional. While we congratulate ourselves upon the preservation of the skin, we must all deeply regret the loss of the bones, any one of which would have been in the highest degree valuable for the sake of comparison with the scanty remains which have been sent home from New Zealand.

"Upon a cursory view of this bird it might be mistaken for a gigantic kind of *Porphyrio*; but on examination of its structure it will be found to be generically distinct. It is allied to *Porphyrio* in the form of its bill and in its general colouring, and to *Tribonyx* in the structure of its feet, while in the feebleness of its wings and the structure of its tail it differs from both.

"From personal observation of the habits of *Tribonyx* and *Porphyrio*, I may venture to affirm that the habits and economy of the present bird more closely resemble those of the former than those of the latter; that it is doubtless of a recluse and extremely shy disposition; that being deprived, by the feeble structure of its wing, of the power of flight, it is compelled to depend upon its swiftness of foot for the means of evading its

¹ Vol. iii. p. 377, pl. lvi. figs. 7–13 (1848), and p. 173, Pl. XLVII. of the present work.

² I have to express my obligations to Mr. Gould for permission to take, from the plate illustrative of his description, the requisite number of impressions for the copies of my present work.

natural enemies; and that, as is the case with *Tribonyx*, a person may be in its vicinity for weeks without ever catching a glimpse of it.

“ From the thickness of its plumage and the great length of its back-feathers, we may infer that it affects low and humid situations, marshes, the banks of rivers, and the coverts of dripping ferns, so abundant in its native country. Like *Porphyrio* it doubtless enjoys the power of swimming, but would seem, from the structure of its legs, to be more terrestrial in its habits than the members of that genus.

“ I have carefully compared the bill of this example with that figured by Professor Owen under the name of *Notornis mantelli*, and have little doubt that they are referable to one and the same species; and as we are now in possession of materials whence to obtain complete generic characters, I hasten to give the following details in addition to those supplied by Professor Owen.

“ Bill somewhat shorter than the head, greatly compressed on the sides, both mandibles being much deeper than broad; tomia sharp, curving downwards, inclining inwards, and slightly serrated; culmen elevated, much arched, and rising on the forehead to a line with the posterior angle of the eye; nostrils round, and placed in a depression near the base of the bill; wings very short, rounded, and slightly concave; primaries soft and yielding, the first short, third, fourth, fifth, sixth, and seventh equal and the longest; tail-feathers soft, yielding and loose in texture; tarsi powerful, longer than the toes, almost cylindrical, very broad anteriorly, defended in front and on either side posteriorly by broad and distinct scutellæ; the spaces between the scutellæ reticulated; anterior toes large and strong, armed with powerful hooked nails, and strongly scutellated on their upper surface; hind toe short, strong, placed somewhat high on the tarsus, and armed with a blunt hooked nail.

“ Head, neck, breast, upper part of the abdomen, and flanks purplish blue; back, rump, upper tail-coverts, lesser wing-coverts, and tertiaries dark olive-green, tipped with verditer-green; at the nape of the neck a band of rich blue separating the purplish-blue of the neck from the green of the body; wings rich deep blue, the greater coverts tipped with verditer-green, forming crescentic bands when the wing is expanded; tail dark green; lower part of the abdomen, vent, and thighs dull bluish black; under tail-coverts white; bill and feet red.

“ Total length of the body 26 inches; bill, from the gape to the tip $2\frac{1}{3}$, from the tip to the posterior edge of the plate on the forehead 3; wing $8\frac{1}{2}$; tail $3\frac{1}{2}$; tarsi $3\frac{1}{2}$; middle toe 3, nail $\frac{7}{8}$; hind toe $\frac{7}{8}$, nail $\frac{3}{4}$.”

Besides the skull and sternum, I had grounds for referring to *Notornis* a femur and a metatarsal bone in the series of fossils from Waingongoro.

The smaller Coot of New Zealand, called by the natives ‘Pukeko’ (*Porphyrio melanotis*, Gd.), comes nearest to *Notornis* in the form and proportions of the bill; but the *Tribonyx mortieri* of Tasmania and Australia offers a greater resemblance, in its feeble wings, thick legs, and short toes, than does any known existing Ralline of New Zealand, to the

great Coot of that country. I continue in hopeful expectation of the opportunity of working out more closely the affinities of *Notornis* by receiving, through some fortunate finder and friendly contributor, an entire skeleton of the bird. The ardent and accomplished students of the avifauna of New Zealand incline, however, to the opinion that the flightless Coot has become extinct.

It is true that a second skin of this bird was obtained by Mr. Walter Mantell, of whom it was obtained by purchase, together with the first skin, by the Trustees of the British Museum. I have not been able to ascertain the precise locality in which this second example of the living *Notornis* was taken or the circumstances of the capture.

Dr. Buller, in his excellent work on the living birds of New Zealand, writes:—

“Mr. Mantell was fortunate enough to secure a second specimen of *Notornis*; and these examples, the only two known, having been carefully mounted by Mr. Bartlett, now stand side by side in the National Collection of Great Britain, and, like the remains of the Dodo in the adjoining case, daily attract the attention of thousands of eager visitors!”¹

Dr. Buller correctly states that the “second specimen, which is supposed to be a female, is somewhat smaller than the first in all its dimensions, has the colours generally duller, and the olive-green of the upper parts shaded brown”².

The first specimen he describes as that of an “adult male.” No opportunity, however, was given in either instance for dissection by a person competent to determine the sex; and the supposed ‘female’ may have been an immature bird in an early phase of plumage. Dr. Buller gives as the native names of the *Notornis*, ‘Moho,’ ‘Takahe,’ and ‘Tokohea.’ But the remark quoted by Dr. Mantell from his son’s letter, that the natives of the paha and villages in his route homeward along the South Island, and at Wellington on the North Island, regarded the bird-skin as “a perfect novelty,” must be borne in mind.

The date of the extinction of *Notornis* in the North Island may have been that of the *Dinornis*, *Apteryx*, and *Cnemidornis*. Even in the South Island, which was less peopled by the Maories, the *Notornis* would seem to have been driven to the south-west extremity, where I am still in hopes that, as Dr. Buller remarks, “Although no examples of the *Notornis* have, since 1848, been obtained, it does not necessarily follow that the species is absolutely extinct. The recluse habits of such a bird would account for its escaping notice in the only partially explored portions of the country”³.

In Steward’s Island and contiguous portions of dry land to the south-west of the South Island of New Zealand search might be made.

DESCRIPTION OF THE PLATE.

FRONTISPIECE TO VOL. I.

Side view of the larger specimen of the *Notornis* in the British Museum: nat. size.

¹ ‘A History of the Birds of New Zealand,’ by Walter Lawry Buller, Sc.D., F.L.S., &c. 4to, 1872, p. 192.

² *Ib.* p. 189.

³ *Op. cit.* p. 192.