

HISTORY OF DISCOVERY OF THE CRESTED GREBE, *Podiceps cristatus*, IN NEW ZEALAND

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ABSTRACT

In 1865 Buller named a 'hitherto undescribed' Crested Grebe *Podiceps Hectori* after its collector. Several other records and observations precede Buller's description: Heaphy saw 'Grebes,' possibly Crested Grebes, on Lake Rotoroa, Nelson, in 1846; Grey presented a specimen of '*P. cristatus*' from New Zealand to the British Museum (Natural History) in 1847; Potts 'first made its acquaintance' on Lake Selfe, Canterbury, in 1856 but did not publish this till 1869; Haast in 1861 published a definite record of 'crested grebe (*Podiceps cristatus*?)' on Lake Rotoroa, Nelson; Hector's diaries indicate that he collected and identified the bird on which Buller based his *Podiceps Hectori* at Lake Wakatipu in April 1863 (Hector listed 'Crested Grebe, *Podiceps Cristatus*' in his note-book for May-June 1863).

INTRODUCTION

It is just over one hundred years since the twenty-seven years old Walter Buller was awarded the Commissioner's silver medal for his *Essay on the ornithology of New Zealand* in the essay competition of the New Zealand Exhibition held in Dunedin in 1865 (first published as a pamphlet 1865, re-published 1868).

In this pioneer work on the New Zealand avifauna, Buller described 'a large crested grebe, hitherto undescribed' and inhabiting the lakes of the South Island. He mentioned that 'Dr Hector obtained several specimens of this bird during his explorations of the Otago Province, and they are now deposited in the Provincial Museum.' He gave a detailed description of the species, leaving no doubt that he, in fact, described a southern form of Crested Grebe, *Podiceps cristatus*; he called it, however, *Podiceps Hectori* Buller, naming it in honour of its discoverer.

This description has generally been accepted as the first published record of the Crested Grebe in New Zealand, so much more so as Buller himself stated that this species was 'hitherto undescribed.'

This, however, is not so. Several years before Buller's essay appeared at least five other persons had either obtained a specimen (Grey), published records of what can reasonably be interpreted as observed Crested Grebes (Heaphy, and Haast), or subsequent publication or records have shown that Crested Grebes were observed or collected (Potts, and Hector).

HEAPHY SEES 'GREBES' ON LAKE ROTOROA, NELSON, 1846

Charles Heaphy arrived in New Zealand in 1839; he came with Wakefield in the *Tory* and had been engaged by the New Zealand Company as official artist and draughtsman. In 1841 he returned temporarily to England to report to the Company's directors, and while in England he wrote and published (1842) a *Narrative of a Residence in Various Parts of New Zealand*. In this informative although somewhat rosy account of life and opportunities in the new colony, he mentioned among other waterfowl, 'divers' being present on the rivers. This inadequate mention hardly justifies acceptance of Crested Grebe being seen although Heaphy did spend two months in the Nelson area. (Gould who in 1848 published the first illustration of the Southern Crested Grebe (cf. Fig. 1) — in colour and natural size — mentioned that the species is called 'diver' by the colonists in Australia, and even in recent years I have met anglers and other people in the New Zealand back-country referring to this bird as diver). After his return to New Zealand Heaphy settled in Nelson early in 1843. With Thomas Brunner, William Fox (who later won knighthood, premiership and riches) and the Maori Kahu, Heaphy set out in 1846 on a trip to Lake Rotoroa. In his account of this trip, published in



FIGURE 1 — The first published illustration of the Southern Crested Grebe (in colour and natural size) was plate 80 in volume 7 of J. Gould's *The Birds of Australia* (1848). Unfortunately it is incorrect and appears to have been at least partly drawn from a European specimen (*P. c. cristatus*): in the illustration the bird has a clear white loreal stripe continuing over the eye. In *P. c. australis* the lores are not white but fulvous, and there is no unbroken white eye-stripe.

the *Nelson Examiner* for 4 and 14 March 1846, he mentioned from his visit to Lake Rotoroa on 11 February that: 'Grebes and divers with other water-birds, were floating about on the surface, nor did the instability of our shalop deter us from getting a shot at them.' Kehu snared four Wekas and shot six New Zealand Pigeons and four Blue Ducks, but grebes were not mentioned as being shot. While not satisfactory, this description indicates that Heaphy probably observed Crested Grebes on Lake Rotoroa in 1846, a lake where Crested Grebes were soon to be seen by others.

CAPTAIN G. GREY'S '*P. cristatus*. 41.1.8.6' FROM 1847

As attempts to locate any of Hector's original grebe specimens in New Zealand museums had failed, I wrote to Dr D. W. Snow, Curator of Birds, British Museum (Natural History), Tring, England, enquiring whether any of the specimens might have ended up there on exchange, as purchase or gift in colonial days. This had indeed been the case (as reported below), but Dr Snow further advised me that another Crested Grebe specimen had come into the collection a good deal earlier. An unsexed adult specimen had been among a small collection of bird skins from New Zealand presented to the British Museum (Natural History) by Captain G. Grey in 1847. The only information on the label is "*P. australis*. New Zealand. Grey. 47.1.8.6.", the last being the Registered Number.

As and when opportunity permits I shall wish to examine this specimen and the circumstances of its receipt (dispatch, possible place of origin), but, in the meantime, the facts of its receipt and its label must suffice. This collected specimen pre-dates the Hector/Buller *Podiceps Hectori* with some 17 years.

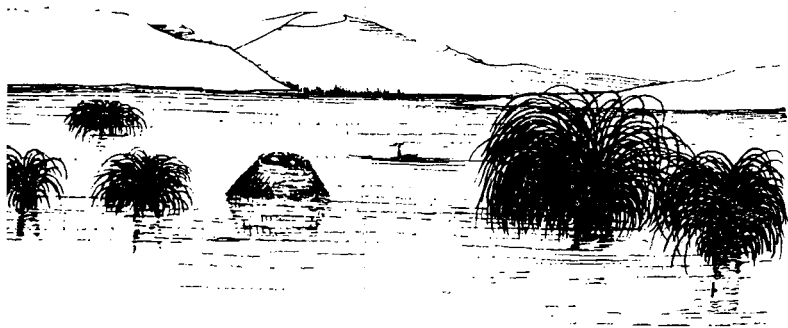
Sandhurst-trained and after soldiering with the 83rd Regiment of Foot in Ireland, Captain George Grey made two expeditions to north-west Australia 1837-1839 and was appointed Governor of South Australia in 1840. He had early shown interest in natural history: 'Like many another boy, he loved to visit the British Museum of Natural History at South Kensington, which in after-years he supplied with specimens of animals he had shot in the course of his travels' (Rutherford 1961: 4). During his stays in Australia 1837-1845, Grey sent large collections of birds to the British Museum: in 1843 a donation of 375 specimens arrived for which the Secretary of the Board acknowledged: "Your contributions are some of the most interesting which we can boast in the department of zoology" (Rees & Rees 1892: 72). In 1843 three more collections arrived, including a large number of bird skins; the last gift of specimens from South Australia was acknowledged on 18 March 1847, after Grey had gone to New Zealand.

Grey was appointed Lieutenant Governor of New Zealand on 13 June 1845 and arrived at Auckland on 14 November 1845. His first couple of years in this country — during which the Crested Grebe

specimen was collected and dispatched — saw him take charge of the campaigns against the Maori rebels in the Bay of Islands area, later transferring his activities to the Wellington and Taranaki districts where order was also restored. It is not possible with the information available to discover where, when and how Grey obtained (shot or purchased?) the Crested Grebe specimen; as far as I can ascertain, Grey did not during 1845-1846 or early 1847 travel in the South Island (where most of the Crested Grebes are and were) or to Waikaremoana or Waikare-iti in the North Island (where there were grebes then). The possible solution to the problem of the origin of Grey's '*P. cristatus* New Zealand' will have to be left to future work.

POTTS NOTES 'CRESTED GREBE' ON LAKE SELFE,
CANTERBURY, 1856

Chronologically, the next recorded observation of Crested Grebe — and possibly the first definite field determination — was made by T. H. Potts but unfortunately not published till later. Potts (1869), in his discussion of the Crested Grebe, said: 'In April, 1856, we first made its acquaintance, on a small lake, now called Lake Selfe' (cf. Fig. 2). Potts who had come to New Zealand from England in 1853 was one of Haast's closest personal friends and collaborators, and he travelled widely in the South Island in pursuit of his ornithological, botanical and Maori studies.



Nest of
PODICEPS HECTORI
Grebe

T.H. Potts del. J.B. 1869

FIGURE 2 — The first illustration of a Crested Grebe and its nest in New Zealand, drawn by T. H. Potts, probably at Lake Selfe, and published in 1869 (plate 4 in Potts, 1869). Buller never published an illustration of this species in any of his editions of *A History of the Birds of New Zealand*.

HAAST RECORDS '*PODICEPS CRISTATUS* ?'
ON LAKE ROTOROA, NELSON, 1861

The first definite record published of Crested Grebe in New Zealand was by Haast (later Sir Julius von Haast) in 1861. Haast had come to New Zealand in 1858 from his native Germany. His home town was Bonn where he had attended the university, and he travelled widely in Germany; after leaving university he spent some years in France and Belgium and made extensive journeys to Austria, Italy and Russia. With his undoubted interest in birds — as later work and papers showed — and having spent the first 35 years of his life in Europe, in parts where Crested Grebes are common, there can be no doubt that Haast knew this species. His first official assignment in New Zealand was geological and topographical surveys in Nelson. This expedition took place from January to June 1860 in the course of which in January he visited Lakes Rotoiti and Rotoroa; it was here Haast observed and correctly identified this bird (Haast 1861): 'On the lakes, besides the several inhabitants before enumerated, we found the crested grebe (*Podiceps cristatus* ?), of which only very little is known.' The section on bird observations in this report was in 1862 reprinted as a separate paper — and thus made more easily accessible to ornithologists — in *Ibis*, and it was this paper which was seen by the German authority, Dr Otto Finsch who wrote a critique of Buller's essay (1868 and 1869). It was, however, strange that Buller did not see or acknowledge Haast's Crested Grebe observation, either in its 1861 original or in the 1862 *Ibis* reprint.

ELLMAN AND GRAY ON CRESTED GREBE, 1861 AND 1862

In the same year that Haast's grebe observation was published, J. B. Ellman (1861) published his hitherto almost completely overlooked review and species list of New Zealand birds which as a check-list is only preceded by Gray (1843 and 1845). Whereas Gray had no reference to Crested Grebes, Ellman had this entry: 'Crested Grebe? Found on lagoons in the middle island. Unknown to me.' The middle island is, of course, the early name for the South Island. Ellman's manuscript is dated 8 March 1861, and as Haast's *Report* was completed and forwarded to the Superintendent, Nelson, on 27 November 1860, Haast's published record of Crested Grebe must stand as the first although his and Ellman's papers both appeared in 1861.

In 1862 Gray published a new list of New Zealand birds, incorporating 'the additional species recorded by modern authors.' Gray included only one species of grebe, *Podiceps rufpectus*, the New Zealand Dabchick, which he strangely enough had obtained from Taieri, Otago, from where it has completely disappeared many years ago. He then added a foot-note: 'What is the Crested Grebe, Ellman, Zool. 1861, p. 7472?' Gray has no mention of Haast's Crested Grebe observation in 1861 or of the 1862 *Ibis* reprint preceding his own paper; but Gray could not have seen this before he communicated his own

manuscript, and he could not reasonably be expected to have had access to Haast's *Report* in 1861.

HECTOR COLLECTS '*Podiceps Hectori*' AT LAKE WAKATIPU, OTAGO, 1863

The last pre-Buller observation and, in fact, the first collection of Crested Grebe specimens in New Zealand known through publication was due to the efforts of James Hector. After a medical degree from the University of Edinburgh and four years in Canada, the twenty-eight years old Hector arrived in Dunedin in April 1862 where he had been appointed as Provincial Geologist for a three-year period. During 1862 and 1863 he explored widely in Otago Province, publishing many of his findings in 1863. In this the only major report published by Hector about his explorations in Otago, he mentioned a number of birds seen and collected during his travels, but there is no mention of the Crested Grebes which — as subsequently shown — he had collected.

In his *Essay* (1865), Buller mentioned that 'several specimens' were obtained by Hector in Otago; as they are the first specimens collected, and identified, their exact origin is of course of considerable interest. But as with so many other facets of the history of early New Zealand exploration, this enterprise has proved time-consuming and yielding but little information.

At the New Zealand Exhibition in Dunedin, opening on 12 January 1865, Hector had among a great variety of other items, a display: *Birds of Otago*. In the *Official Catalogue of the New Zealand Exhibition*, 1865 is found a list of Hector's birds; the list was prepared by Walter Buller, Esq., F.L.S., and contained a list of 78 species including:

58. *Podiceps Hectori*. — (New species) named by Buller, Rufous Crested Grebe (five specimens; four adults, one chick and two eggs).

As Buller in his *Essay* stated that the specimens 'are now deposited in the Provincial Museum,' I have, with Dr R. R. Forster, Director of Otago Museum, and its Zoologist, Mr J. T. Darby, examined all possibilities (skins, display specimens, entry books); no trace of Hector's specimens could be found, unless some of the unlabelled specimens (labels lost?) may be his type specimens. The possibility existed that such specimens might have been loaned or transferred (in his second edition of *A History of the Birds of New Zealand*, 1888, Buller said that his descriptions of adult and young Crested Grebes are based on specimens 'in the Colonial Museum') to the National Museum, Wellington. An examination of Crested Grebe material held in the national collection was kindly made for me by Mr F. C. Kinsky, then Curator of Birds, but no specimens appear to be Hector's early skins; two specimens are labelled Otago but have no date or collector's name. Nor are these specimens to be found in the Auckland Institute

and Museum (E. G. Turbott, Director) or in Canterbury Museum which, incidentally, has the best collection of Crested Grebe material in New Zealand with one specimen from Buller's collection, but none from Otago; I have personally examined all of these specimens.

As there was no trace of Hector's Crested Grebes from Otago in any New Zealand collections, I contacted — as mentioned above — Dr D. W. Snow, Curator of Birds, British Museum (Natural History), Tring. To my pleasure Dr Snow advised that one Crested Grebe specimen from New Zealand is in the collection, an unsexed adult; the label reads: "*Podiceps cristatus* Crested Grebe/Colonial Museum, Wellington. Dr. Hector, Director." This specimen was registered in 1875, registration number 75.7.2.57, and was one of a collection of 81 specimens received in exchange from Hector who was then Director of the Colonial Museum. This is, undoubtedly, one of Hector's Crested Grebes obtained in Otago of which Buller (1865) said: "they are now deposited in the Provincial Museum" (i.e. Otago Museum). Sometime between 1865 and 1875 these (or some of these) specimens must have been transferred (by Hector?) to the Colonial Museum. Hector became the first Director of the Museum, established in 1865.

Unfortunately this apparently only surviving specimen of Hector's original collection bears no date or place of collection.

In an attempt to find exactly where and when these specimens were collected, a study was made of various Hector and Buller material, including Hector's original note-books from his Otago explorations and now kept in Hocken Library, Dunedin. In note-book B96 for May-June 1863 (Hector's large West Coast expedition in the *Matilda Hayes* took place from 19 May 1863 to 6 January 1864) there is a list of bird specimens collected (so far?), including among others: 13 Kakapo, 13 Little Spotted Kiwi, 4 *Crested Grebe*, and a great number of other species, totalling 27 species and 82 specimens. On another page of the note-book is a list of scientific names of birds, including '*Crested Grebe, Podiceps Cristatus*.'

The note-books do not fully solve the problem. Buller (1873: 354) mentioned that Dr Hector: 'found it on the Whakatipu Lake, accompanied by young . . . while in brackish lakes by the coast where old and young birds, as well as eggs, were obtained . . .'. If we review Hector's movements during his three years in Otago (and for this purpose I had much help from Mr R. I. M. Burnett's unpublished M.A. Honours thesis: *The Life and Work of Sir James Hector*, University of Otago, 1936, copy in Hocken Library), it appears that he visited Lake Wakatipu on four occasions:

- (1) briefly in November 1862 when he skirted the southern end of the lake on his way elsewhere. It is unlikely the grebe specimens were collected then:
- (2) in April 1863 before setting out on his major expedition, Hector journeyed to Lake Wakatipu where he got in touch with a local

runholder, Mr N. von Tunzelman, with whom he crossed the lake to its western shore to what is now known as Whites Bay: from here they tramped up the Von riverbed, up the Mararoa and almost to the head of the Greenstone River, returning the same way. It is possible that Hector collected adult Crested Grebe specimens at Lake Wakatipu on this trip, either crossing or re-crossing the lake or staying at it:

- (3) the chick and eggs collected and listed in the *Catalogue of the New Zealand Exhibition*, were according to Buller obtained 'in brackish lakes by the coast'; this is inconsistent with Buller (1873: 354) where he also stated that Hector 'found it on the Wakatipu Lake, accompanied by young.' A review of Hector's 1863-64 expedition to Fiordland in the *Matilda Hayes* shows stops in *Chalky Sound* (where Hector penetrated Edwardson Sound) and reached Lake Cadman which had brackish water and is a potential Crested Grebe lake (no recent records available) from Cliff Cove at the top end of Cunaris Sound Hector walked across to Last Cove in Long Sound; *Preservation Inlet* (where Hector via Narrow Bend reached the top end of Long Sound, a brackish to almost freshwater 'lake' where: 'owing to the quantity of fresh water poured into the head of the Sound, the influence of the flood is hardly felt'; in Long Sound: 'there were plenty of ducks of various kinds'; Hector was in Chalky and Preservation Inlets from 17 June to 22 July); *Thompson's Sound* (Deas Cove, past Secretary Island to Doubtful Sound, Crooked Arm inlet where there were: 'plenty of ducks and other water fowl'; in this inlet there was a layer of fresh water (which froze) above the 6 fathoms of sea water below of a temperature of 9°C); *Milford Sound* (early August, camped at Freshwater Basin at top end of Sound, Cleddau River Valley); *Martins Bay* (Hector sailed up the Hollyford River and arrived in Lake McKerrow, which he called Kakapo Lake, on 28 August; Hector named the Hollyford, the Kaduku River; the lake is brackish, with increasing amount of fresh water towards its head). On 23 September he left the *Matilda Hayes* in Wart Cove and tramped up the Hollyford River Valley; near the pass (now known as Key Summit) he found two lakes, Lake Howden and Lake McKellar and via the Greenstone Valley and his former track reached Lake Wakatipu and eventually Queenstown on 4 October. From Queenstown Hector journeyed to Dunedin where he wrote his report, returning to:
- (4) Queenstown on 27 October, returning to the base camp at Lake McKerrow the way he had come. In his absence John Falconer, the Skipper, had examined Lake Alabaster. Because of bad weather their departure was delayed a fortnight.

On the return journey by sea Hector visited Milford, Bligh and George Sounds. He spent three weeks in Dusky Sound, New Year's Eve at Chalky Inlet, and returned to Dunedin, arriving at Port Chalmers, on 6 January 1864, with a large collection of geological, botanical and zoological specimens. The *Otago Daily Times* featured the return of the *Matilda Hayes* in its issue for 7 January. In the report was mentioned that: 'The Doctor has succeeded in capturing Kiwis

(Apteryx) of two species, and also some Kakapos, or ground parrots; one of the latter has been brought alive to town.' There is no mention of Crested Grebes. The final sentence reads: 'A full account of the expedition will be made public as soon as possible' but no general report was ever published. Hector was shortly after his return appointed one of the Commissioners of the New Zealand Exhibition, opening in Dunedin in January 1865, a year after his return. He was busy arranging his collections for public display, and also his bird collection was temporarily removed and displayed at the exhibition.

It should further be pointed out that the four adult Crested Grebe specimens, the chick and the two eggs displayed by Hector in 1865 and originating from his explorations in Otago, might not necessarily have been collected (all or part) on his major expedition in 1863-64. From his report (1863) and note-books it is clear that he during 1862-63 visited a number of lakes where Crested Grebes now occur occasionally and undoubtedly occurred in his day, including Lake Wakatipu, Lake McKerrow and Lake Wanaka. It is unfortunate that the type specimen of Buller's *Podiceps Hectori*, whatever its subsequent fate, is unknown and that likewise the first locality of a verified Crested Grebe is unknown and may remain unknown forever.

All we can safely conclude is that Hector's collected Crested Grebe specimens (adults, chick and eggs) provided the first scientific record of verified occurrence in New Zealand. The adult specimen, on which Buller's *Podiceps Hectori* = *Podiceps cristatus australis* was based, was most likely collected in Lake Wakatipu in April 1863; it could be this specimen which is now in the British Museum (Natural History), Tring, forwarded by Hector in 1875.

THE FATES OF ROTHSCHILD'S BULLER-SPECIMENS

Finally, it needs to be mentioned that tracing the fates of grebe specimens from Buller's collection to the New World was as unsuccessful as other attempts to locate his *Hectori* type specimen.

Rothschild's much lamented sale of his bird collection to the American Museum of Natural History included four Crested Grebe specimens from New Zealand. Three of these were labelled Buller Collection but only one specimen had further identification (A.M.N.H. No. 526627): it was from Rotoiti Lake, South Island, and dated November 1892 (F. Vuilleumier, pers. comm.).

The fourth Rothschild specimen (A.M.N.H. No. 526625) was of particular interest. The original label showed that it came from A. von Hugel's collection, was a female, from Lake Wakatipu, December 1874. Rothschild's label showed that the specimens from von Hugel had gone to G. M. Mathews, Australia's avid bird collector, and later to Rothschild. It is not quite clear who A. von Hugel was, whether (and most likely) the Austrian Baron Karl Alexander von Hugel who was interested in natural history, in particular plants, and a great

collector (he provided the museums of Vienna with 32 000 biological specimens!) and who visited New Zealand from 9-31 March 1834 (Marshall 1836, Dolezal 1972), or his son A. (for Anatole) who in 1883 became Director of the Ethnographical-Archaeological Museum of Cambridge University. If the date (1874) is correct, it is of less interest in connection with the problem raised in this paper as it is somewhat later than grebe observations and the Hector specimens. If the older von Hugel (later to be known as Charles von Hugel; he settled in England and married an Englishwoman) had obtained the specimen in 1834 or subsequently from contacts made, the matter would be of appreciable interest as such a grebe specimen could precede Hector's first collection by up to 31 years. A closer study of the travels, collections, letters and publications of the two von Hugels in Vienna and elsewhere may be profitable.

In addition to the four grebe specimens from the Rothschild collection, two Crested Grebes, a male and a female, from Buller's collection are in the Carnegie Museum of Natural History, Pittsburgh. They are both labelled "Marlborough 1892" (K. C. Parkes, pers. comm.).

In both collections the Crested Grebe specimens of New Zealand origin are either too late (1874 and 1892) or undated so they have no direct bearing on the establishment of the identity of Buller's type specimen.

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