

Bird collections made by the Cheeseman family: a record of the avifauna of Auckland, New Zealand, in the late 19th century

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Abstract Collections of bird specimens assembled by T.F. Cheeseman's family in the late 1800s and early 1900s, are well-documented as to collecting localities and dates of collection. They provide a record of bird-life in the Auckland, New Zealand, region at that time. An inventory of the Auckland specimens is given, as well as information on 2 of Cheeseman's siblings: William Joseph Cheeseman, who collected (i.e. shot) birds; and Emma Cheeseman, who prepared study skins. Of greatest interest among the bird specimens are species no longer present at the localities near Auckland city at which they were collected, including brown kiwis (*Apteryx mantelli*) at Waitakere (1881), brown teal (*Anas chlorotis*) at Ellerslie (1878) and Remuera (1880, 1886), fairy terns (*Sterna nereis*) at Orakei (1878), kokako (*Callaeas wilsoni*) at Titirangi (1878), and fernbirds (*Bowdleria punctata*) (1878) and pipits (*Anthus novaeseelandiae*) (1887) at Remuera. It would be very unusual to see black-fronted terns (*Sterna albobriata*) at the Manukau Harbour (recorded in 1879), and black stilts (*Himantopus novaeseelandiae*) at Mangere (recorded in 1879) today.

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INTRODUCTION

Museum specimens of birds, when well-documented, are important resources for biological studies. As time passes, specimens also acquire historical interest. New Zealand's principal natural history museums—in Auckland, Wellington, Christchurch, and Dunedin—were founded in the 2nd half of the 19th century (Gill 2006). Despite this early beginning, the surviving 19th century collections of local birds in New Zealand museums, resulting from the museums' own collecting, are mostly small and poorly documented (Gillette & Bartle 1982, Bartle & Yaldwyn 2001).

In the late 1800s, Walter Buller privately accumulated 3 extensive collections that formed the basis of his description of the New Zealand avifauna (Buller 1872–1873, 1887–1888; Turbott 1967; Galbreath 1989). The 1st of these collections was acquired finally by the Museum of New Zealand Te Papa Tongarewa, Wellington, but only 35 specimens survive (A.J.D. Tennyson, pers. omm. 2005). There is other Buller material in Canterbury Museum, Christchurch, but most of his specimens are now in the American Museum of Natural History (New York) and Carnegie Museum (Pittsburgh, Pennsylvania, U.S.A.).

Given the generally poor holdings of early specimens in New Zealand, some well-documented study skins from the Auckland region, assembled in the late 1800s and early 1900s by members of the Cheeseman family, are noteworthy. The specimens mostly retain their collecting localities and dates of collection, and those that do are therefore important voucher specimens for the birds of the Auckland region at the time.

THOMAS F. CHEESEMAN, THE CHEESEMAN FAMILY AND THE FAMILY COLLECTIONS

Thomas F. Cheeseman, Curator of the Auckland Museum (now, Auckland War Memorial Museum) for nearly 50 years from 1874, was primarily a botanist, but as with most museum curators of his day he contributed to other branches of natural history. He curated the bird specimens at Auckland Museum, and wrote several ornithological papers (e.g., Cheeseman 1888, 1890). Many bird specimens accessioned to the Auckland Museum collections during this period, bear original labels in T.F. Cheeseman's neat hand-writing.

A subset of the Museum's collection of skins made in the 19th century are 2 groups of specimens, mostly from the Auckland region, linked to members of the Cheeseman family other than T.F.

Cheeseman himself. There is evidence that some of these were prepared by Cheeseman's sister Emma. One collection comprises specimens collected by W.J. Cheeseman; the other group comprises specimens not linked to W.J. Cheeseman, that seem to have been held privately by the family, and which were sold to the Museum in 1928, 5 years after T.F. Cheeseman's death.

Thomas Frederick Cheeseman (TFC) was born the eldest of 5 children in Yorkshire in 1845, and came to New Zealand as a child with his family in 1854 (Cockayne 1923; Goulding 1996). He was appointed Curator (i.e. Director) of Auckland Museum in 1874 and held the post until his death in 1923.

Auckland Museum Library holds an unpublished MS by W.R.B. Oliver on the life of TFC (MS 581), and family papers from Dorothy Grant-Taylor (MS 94/45), TFC's daughter. Oliver's MS gives the names and dates-of-birth of TFC's 3 sisters as Emma (4 Nov 1846), Ellen (6 Sep 1848), and Clara (16 Jul 1852). An annotation by D. Grant-Taylor indicates that Oliver omitted to mention a brother born in New Zealand. An obituary (*New Zealand Herald*, 26 Sep 1907) for TFC's father, Thomas Cheeseman senior, indicates that TFC's brother was "Mr W.J. Cheeseman, building contractor".

Of significance to understanding the origin of the Cheesemans' bird collection, is a notebook entitled "Notes as told by Clara Cheeseman in her 80s to Dorothy Grant-Taylor early 1930s" (MS 94/45) which contains, with reference to Emma, the comment that "she would prepare the birds for The Museum even setting them up". An adjacent marginal note states "Willie got birds". This would seem to establish that W.J. Cheeseman ("Willie") collected birds and that his sister Emma was the taxidermist who prepared them.

A William Joseph Cheeseman, "builder", died in Auckland in 1934 aged 79 (M. Collett, pers. comm. 2005, from records held by the New Zealand Society of Genealogists). A birth-year of c.1855 would be consistent with his being TFC's younger brother, born soon after the family arrived in New Zealand in 1854. He is buried at Purewa Cemetery, Meadowbank (Block C, Row 4, Plot 53; Fig. 1).

Study skins

In the Auckland Museum collection, or registers, I have identified 57 study skins from the Auckland region (Table 1), and 4 from Whangarei (see below), with W.J. Cheeseman (WJC) given as collector. All have catalogue cards made out by L.T. Griffin, in 1925 or later, which record "W.J. Cheeseman" or "W.J.C." as collector. Louis Griffin was assistant to TFC and to his successor from 1908 to 1935. In 1925–26 he introduced a system of catalogue cards for the bird collection (see Gill 2000). Before then, unlike

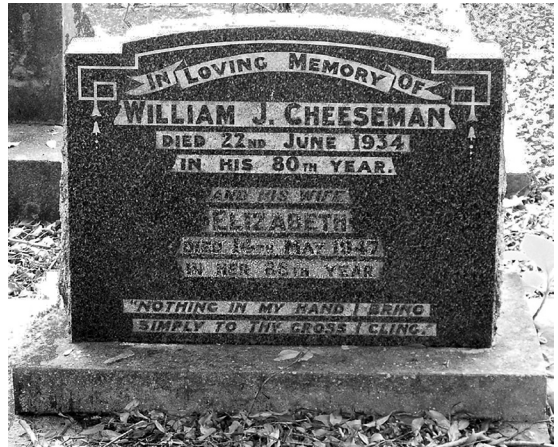


Fig. 1 Headstone for W.J. Cheeseman, Purewa Cemetery, Meadowbank, Auckland, photographed 2005. Photo: B. Gill.

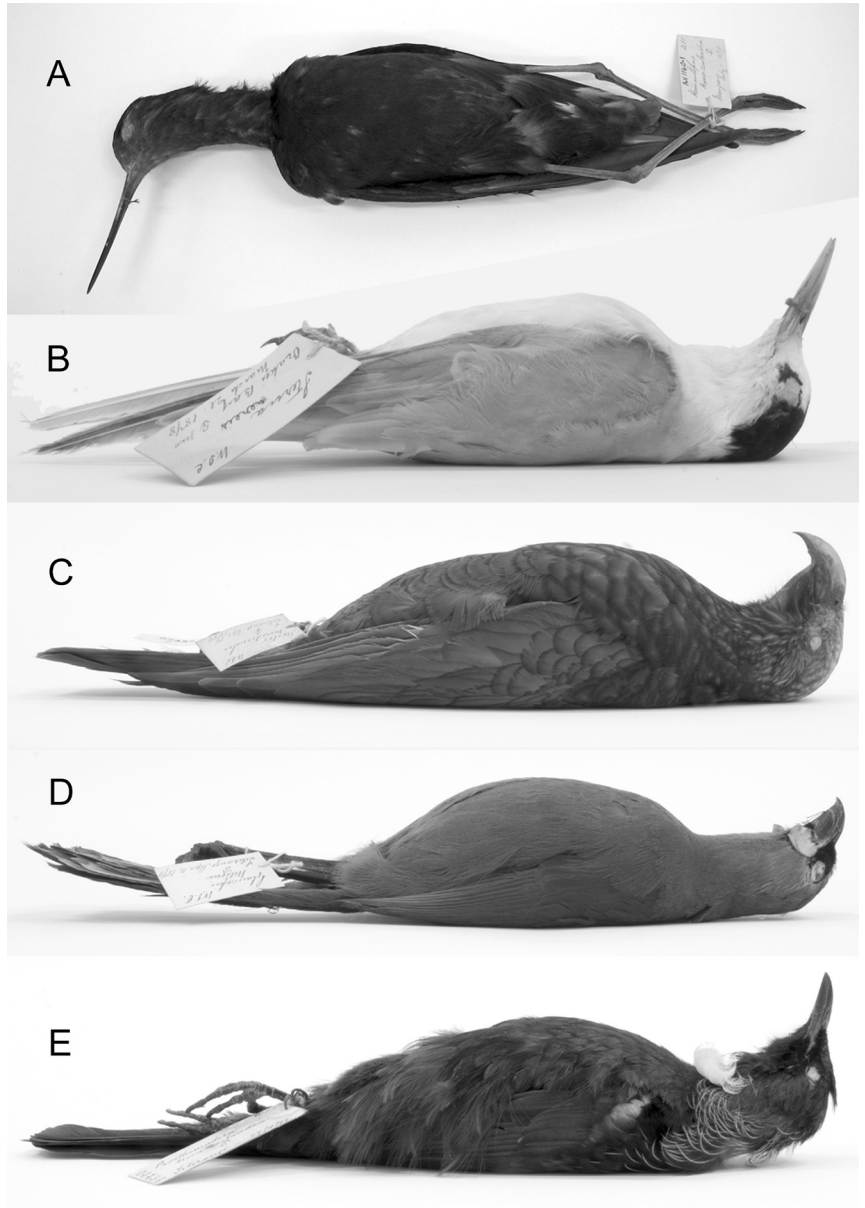
mounted bird skins, study skins seem not to have been either numbered or entered in contemporary registers (the Blue and Brown Books that preceded the catalogue card system), although they had labels attached.

Most WJC study skins (Fig. 2) have an original label that is almost always (Fig. 2, 3A) written in T.F. Cheeseman's hand, 50–60 mm long × 20–30 mm wide, cut from white card, and strung from a small hole pierced centrally at 1 side. The 2 corners of the suspension edge may be cut off diagonally. The card stock has turned off-white with age but is of good quality (the label on skin LB2588 is embossed with a crown and the words "Bristol Board"). The inscription is in brown ink, or ink that has turned brown with age. The registration details are on 1 side; any note on eye colour is on the reverse.

Most labels have the initials WJC at the top right (Fig. 3A), taken here to indicate that he was the collector. On the back of the label, in addition to any descriptive note, there are usually the initials "E.C." in an unknown hand. I presume that indicates that the specimen was prepared by Emma Cheeseman: the writing may be hers. Specimens annotated "E.C." are mostly neat, well-prepared study skins (Fig. 2). The legs are usually crossed and the heads of some larger birds (e.g., ducks, waders) may be turned to the bird's right (Fig. 2A) or left.

From the dates on the labels, most of the WJC study skins were collected between 1877 and 1883, with a peak in 1878, when WJC was in his early twenties. There are a few specimens from 1886–87, 1 from 1894 and 2 much later specimens (1909, 1911). The museum's *Annual Report* for 1877–78 lists among additions and donations for that year "103 New Zealand Bird Skins:- W. J. Cheeseman". The surviving WJC specimens collected in 1877 or 1878 were presumably received by the museum at

Fig. 2 Study skins collected by W.J. Cheeseman and prepared by E. Cheeseman. Scale: exposed culmen length (mm). A, black stilt (*Himantopus novaeseelandiae*) LB3413, Mangere 1879 (66.2). B, fairy tern (*Sterna nereis*) LB4931, Orakei 1878 (26.8). C, kaka (*Nestor meridionalis*) LB2455, Titirangi 1878 (41.8). D, kokako (*Callaeas wilsoni*) LB4520, Titirangi 1878 (28.2). E, tui (*Prothemadera novaeseelandiae*) LB4434, Titirangi 1877 (24.5). Photos: John Pusateri.



this time. An earlier *Annual Report* (1873–74) lists “Skins of *Himantopus leucocephalus* and *Ardea sacra*. – W. J. Cheeseman”, referring to the pied stilt (*Himantopus leucocephalus*) and reef heron (*Ardea sacra*), respectively. No WJC skins collected before 1877 are in the Auckland Museum collection now.

Additional birds collected by WJC beyond Auckland (not included in Table 1) are 4 study skins from Whangarei Heads collected in Aug 1878: New Zealand scaup (*Aythya novaeseelandiae*), LB3500 (17 Aug); little shag (*Phalacrocorax melanoleucos*), LB2965 (17 Aug); pied shag (*Phalacrocorax varius*), LB3108

(21 Aug); and Caspian tern (*Sterna caspia*), LB2941 (15 Aug).

Mounts

Besides the study skins, 17 WJC specimens are listed in the Blue Book (BB), a register used for land vertebrates between 1898 and 1917, with dates of receipt back to 1870 (Gill 2000). These specimens were presumably all mounts, and all were received in 1877, 1878, 1881, or 1886. Fourteen of the 17 were from Auckland (Table 1). The other 3 were from Whangarei: Australasian gannet (*Morus serrator*),

Table 1 Inventory of the bird specimens (study skins, unless stated otherwise) collected by the Cheeseman family from the Auckland region in the Auckland Museum collection, grouped by collecting locality. All collected by W.J. Cheeseman ($n = 71$), except those marked with an asterisk (*, $n = 16$) which are from the 1928 Cheeseman family purchase (collector unknown). Those currently in the Auckland Museum collection have LB numbers; others have not been identified in the collection, or are missing, or have been exchanged or destroyed.

Locality/ Common name	Scientific name	Accession no.	Collection date
"Auckland"			
Long-tailed cuckoo	<i>Eudynamys taitensis</i>	LB1783*	24 Feb 1882
Shining cuckoo	<i>Chrysococcyx lucidus</i>	LB2370*	3 Nov 1898
Auckland Harbour			
Banded dotterel	<i>Charadrius bicinctus</i>	BB 855	1886, mount
Bar-tailed godwit	<i>Limosa lapponica</i>	LB2844	26 Apr 1878
		LB2846	4 Feb 1878
Black-backed gull	<i>Larus dominicanus</i>	BB 879-80	1877, 1878, mounts
Drury			
Fernbird	<i>Bowdleria punctata</i>	LB4708*	21 May 1881
Ellerslie			
Brown teal	<i>Anas chlorotis</i>	LB3470	11 Jul 1878
Mangatawhiri (near Pokeno)			
Australasian bittern	<i>Botaurus poiciloptilus</i>	LB1804	16 May 1886
Grey duck	<i>Anas superciliosa</i>	LB1968	3 May 1909
Mangere			
Bar-tailed godwit	<i>Limosa lapponica</i>	LB2848	5 Apr 1881
Black stilt	<i>Himantopus novaezelandiae</i>	LB3413	1 Jul 1879
Pied stilt	<i>Himantopus leucocephalus</i>	AV160.5	Jun 1878
Turnstone	<i>Arenaria interpres</i>	LB2805-6	25 Mar 1881
Wrybill	<i>Anarhynchus frontalis</i>	LB2713-4	26 Jun 1878
Manukau or Manukau Harbour			
Black-fronted tern	<i>Sterna albobriata</i>	LB2920	26 Jun 1879
Red knot	<i>Calidris canutus</i>	BB 873-4	1881, mounts
Grey duck	<i>Anas superciliosa</i>	BB 982-3	1886, mounts
New Zealand dotterel	<i>Charadrius obscurus</i>	BB 851	1886, mount
South I pied oystercatcher	<i>Haematopus finschi</i>	LB2881	26 Jun 1880
		BB 862-3	1886, mounts
Motuihe I			
Bellbird	<i>Anthornis melanura</i>	LB4396	14 Apr 1883
Variable oystercatcher	<i>Haematopus unicolor</i>	LB2887	2 Jan 1879
Orakei or Orakei Bay			
Banded dotterel	<i>Charadrius bicinctus</i>	LB2783	22 Mar 1878
Bar-tailed godwit	<i>Limosa lapponica</i>	LB2845	23 May 1877
		LB2847	11 Mar 1878
Red knot	<i>Calidris canutus</i>	LB2815	23 May 1877
Fairy tern	<i>Sterna nereis</i>	LB4931	21 Mar 1878
		LB4932	Apr 1878
Fantail	<i>Rhipidura fuliginosa</i>	LB4579	14 Mar 1879
		LB4580	20 Mar 1878
New Zealand dotterel	<i>Charadrius obscurus</i>	LB2701	23 May 1877
		LB2703	Jul 1877
		LB2704	Feb 1878
Pied shag	<i>Phalacrocorax varius</i>	LB3109	1 Oct 1878
Shining cuckoo	<i>Chrysococcyx lucidus</i>	LB2369	2 Oct 1879
Penrose			
Red knot	<i>Calidris canutus</i>	LB2814	Mar 1881

Table 1 Continued Inventory of the bird specimens (study skins, unless stated otherwise) collected by the Cheeseman family from the Auckland region, New Zealand, in the Auckland Museum collection, grouped by collecting locality.

Pokeno			
Grey duck	<i>Anas superciliosa</i>	AV115.6	May 1911
Little shag	<i>Phalacrocorax melanoleucos</i>	LB2968*	27 May 1907
Pukeko	<i>Porphyrio porphyrio</i>	LB2675	7 Jun 1894
Remuera			
Brown teal	<i>Anas chlorotis</i>	LB3469	Apr 1880
Chaffinch	<i>Fringilla coelebs</i>	AV778.15	21 Sep. 1878
		LB4662*	Mar 1907
Fantail	<i>Rhipidura fuliginosa</i>	LB4578	15 Jun 1877
House sparrow	<i>Passer domesticus</i>	LB4892	30 Apr 1881
Kaka	<i>Nestor meridionalis</i>	LB2456	Jul 1877
Morepork	<i>Ninox novaeseelandiae</i>	LB2480*	17 May 1890
		LB2481	18 May 1881
		LB2482	25 May 1878
New Zealand pipit	<i>Anthus novaeseelandiae</i>	LB4697	Mar 1887
Pheasant	<i>Phasianus colchicus</i>	LB7241	31 Jul 1887
Pukeko	<i>Porphyrio porphyrio</i>	LB2677	22 Jun 1882
Sacred kingfisher	<i>Todirhamphus sanctus</i>	LB2322	9 Apr 1878
		LB2324*	5 Jun 1908
		LB2325	5 Mar 1878
		BB 803	1877, mount
Silvereye	<i>Zosterops lateralis</i>	AV34.15*	Dec 1892
		LB4736	Feb 1878
		LB4741*	11 Dec 1892
		LB4742*	31 Aug 1889
Skylark	<i>Alauda arvensis</i>	LB4770	30 Apr 1881
St John's Lake, Remuera			
Brown teal	<i>Anas chlorotis</i>	LB3464	1886, relaxed mount
Fernbird	<i>Bowdleria punctata</i>	LB4711	22 Apr 1878
Tamaki, East or West			
Australasian harrier	<i>Circus approximans</i>	LB2540	1 Jul 1878
Banded rail	<i>Gallirallus philippensis</i>	LB2588*	no date
Tiritiri Matangi I			
Blue penguin	<i>Eudyptula minor</i>	LB4996*	23 Sep 1882
Titirangi			
Kaka	<i>Nestor meridionalis</i>	LB2455	17 Apr 1878
Kokako	<i>Callaeas wilsoni</i>	LB4520	16 Apr 1878
		LB4521	30 Apr 1878
Tui	<i>Prothemadera novaeseelandiae</i>	LB4434, 4437	27 Apr 1877
		LB4438*	1 Apr 1878
Waiheke I			
Reef heron	<i>Ardea sacra</i>	LB1928	17 Jun 1882
Waitakere			
Brown kiwi	<i>Apteryx australis</i>	LB2253*	2 Aug 1881
Brown quail	<i>Synoicus ypsilophorus</i>	LB4948	10 May 1881
Grey duck	<i>Anas superciliosa</i>	LB1966	no date
Kaka	<i>Nestor meridionalis</i>	BB 819-20	1878, mounts
Little shag	<i>Phalacrocorax melanoleucos</i>	AV92.3*	Nov 1880
Tomtit	<i>Petroica macrocephala</i>	LB4613	Apr 1880
Tui	<i>Prothemadera novaeseelandiae</i>	LB4435*	27 May 1881

BB 938 (Whangarei Harbour, 1878); black-backed gull (*Larus dominicanus*), BB 881 (Whangarei Heads, 1878); and Caspian tern, BB 893 (Whangarei Heads, 1876 [error for 1878?]).

Of the 17 mounts, only 1 is identifiable today (LB3464), a relaxed mount of a brown teal; Table 1). Of the others, a few are marked as having been destroyed, but most have not been located in the collection and probably have been destroyed over the years. One is depicted in a surviving photograph (Fig. 4). The taxidermist for the WJC mounts is not known, but it may have been Emma Cheeseman. The comment by Clara Cheeseman, that Emma prepared birds “even setting them up”, suggests that she may have occasionally mounted birds.

Besides skins and mounts, there are some eggs of sooty tern (*Sterna fuscata*), white tern (*Gygis alba*), and sacred kingfisher (*Todirhamphus sanctus*) from Norfolk Island, labelled as collected in Dec 1895, or undated. These were presented by “WJC”, presumably W.J. Cheeseman. Whether he visited Norfolk I in 1895, or received the eggs from someone else, is not known.

Altogether, the 71 WJC study skins and mounts from the Auckland area (Table 1) represent 37 species, 18 of land birds, and 19 coastal and wetland birds.

Collection purchased from “Miss Cheeseman”

On 10 Jul 1928, the Museum’s accessions register (under number 164/28) lists: “Collection of (a) water colour drawings (B) N.Z. & foreign bird skins & (c) birds eggs. Purchased from Miss Cheeseman.” The “Miss Cheeseman” is not identified further, but was presumably one of TFC’s sisters. Emma and Ellen died around 1927 and 1928; the surviving (youngest) sister Clara may have been the vendor but equally Emma could have disposed of her collection late in life.

I have identified 26 study skins and a few mounts from the 1928 purchase in the Museum’s collection. They all have catalogue cards by L.T. Griffin, with the annotation “Pur. Cheeseman Coll.” or similar. Many of the skins bear original Victorian or Edwardian labels in a hand other than TFC’s (Fig. 3B). These are 50–65 mm long and 20–35 mm wide, cut from paper, and strung from a small hole in the centre of 1 side. The paper has browned with age: the writing is in brown ink or ink that has turned brown with age. The registration details are on 1 side; any note on eye colour is at 90° to the other writing. These labels do not bear the initials WJC, and only 3 are marked EC.

The 1928 collection includes 16 Auckland specimens (*, Table 1). They add 5 species for the Auckland region to the 37 species represented by the WJC skins and mounts, making a total of 42 species (Table 1). A kingfisher from Remuera has “The Cat” on its label, indicating that some birds were

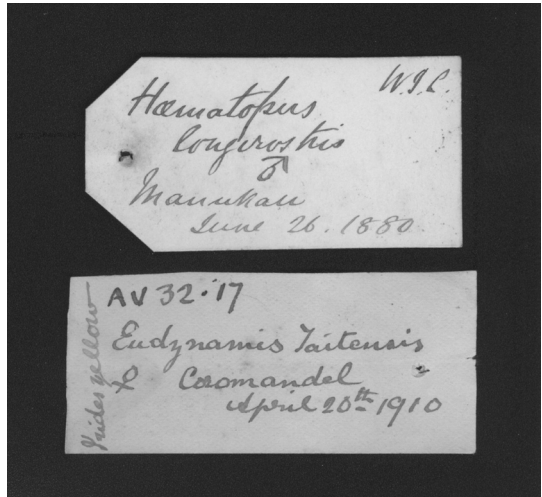


Fig. 3 Sample labels from the Cheeseman collections: A, from a WJC study-skin of a South I pied oystercatcher (*Haematopus finschi*) (LB2881) in T.F. Cheeseman’s hand; length 57 mm. B, from a study skin of a long-tailed cuckoo (*Eudynamis taitensis*) (LB1782) included in the 1928 purchase from “Miss Cheeseman”; hole for string at right; hand-writing not identified; registration number (AV32.17) added later by L.T. Griffin.



Fig. 4 Mounted kaka (*Nestor meridionalis*) skin (Blue Book 819) collected by W.J. Cheeseman in 1878 from Waitakere, Auckland region. Taxidermist unknown; specimen no longer present. Photo: Wm. Beattie Snr. c.1900 (Auckland Museum pictorial collection B13559).

salvaged and not shot for the collection. In addition, there are 2 foreign aviary birds, some imprecisely-localised New Zealand birds, and some birds from beyond the Auckland region (Thames, Coromandel, Rotorua in the North I, and Taipo in the South I). The skins and mounts of the 1928 collection, where dated, were collected between 1875 and 1910: their collection dates are well distributed across those years with never more than 3 birds in any 1 year. The 2 skins from Taipo are a South Is saddleback (*Philesturnus carunculatus*) (LB4554) and a South Is kokako (*Callaeas cinerea*) (LB4535), both collected in 1875.

DISCUSSION

The Cheeseman family collections provide a voucher record of 42 species of land, coastal, and wetland birds from Auckland in the late 19th century (Table 1). Auckland city and its close environs provided specimens of 16 native land birds, including both of the cuckoos that visit New Zealand. Most of these species are present in the same areas today. Fantails (*Rhipidura fuliginosa*) were collected in Orakei and Remuera, the latter suburb being also the source of silvereyes (*Zosterops lateralis*) collected in 1878, 1889, and 1892, and of kingfishers and moreporks (*Ninox novaeseelandiae*). Specimens of banded rail (*Gallirallus philippensis*) and harrier (*Circus approximans*) came from the Tamaki area. The western districts, Titirangi and Waitakere, yielded a tomtit (*Petroica macrocephala*) and tuis (Fig. 2). Kaka, still seen occasionally around Auckland but no longer breeding in the region, were present at Titirangi (Fig. 2), Waitakere, and Remuera.

The few examples of introduced species, collected from 1878 onward, include house sparrow (*Passer domesticus*), chaffinch (*Fringilla coelebs*), skylark (*Alauda arvensis*) and pheasant (*Phasianus colchicus*), all from Remuera, and a brown quail (*Synoicus ypsilophorus*) from Waitakere.

Common migrant and resident shore birds were collected from Mangere, Penrose, or the Manukau Harbour generally, namely bar-tailed godwit (*Limosa lapponica*), red knot (*Calidris canutus*), turnstone (*Arenaria interpres*), South Is pied oystercatcher, pied stilt, wrybill (*Anarhynchus frontalis*), and New Zealand dotterel (*Charadrius obscurus*). Fewer specimens were obtained from the eastern side of the Auckland isthmus: bar-tailed godwit, red knot, New Zealand dotterel, and banded dotterel (*Charadrius bicinctus*) (Auckland Harbour and/or Orakei Bay), and variable oystercatcher (*Haematopus unicolor*) (Motuihe I). Other water birds still present today were black-backed gull (Auckland Harbour), grey duck (Manukau, Waitakere, Mangatawhiri, Pokeno), pied shag (Orakei), little shag (Waitakere, Pokeno), and pukeko (Pokeno, Remuera). A bittern (*Botaurus poicoptilus*) was obtained from Mangatawhiri and a reef heron (*Ardea sacra*) from Waiheke I. The blue penguin (*Eudyptula minor*) in the collection was from Tiritiri Matangi I which remains a nesting site of this species.

It is a measure of the effects of habitat change and the presence of predators that some of the species are no longer present where W.J. Cheeseman collected them. There were then brown teal (1880, 1886), fernbirds (1878), and New Zealand pipits (1887) at Remuera (and St John's Lake). There were fernbirds at Drury (1881), brown teal at Ellerslie (1878), fairy terns at Orakei (1878), kokako at Titirangi (1878, e.g., Fig. 2D), and brown kiwis at Waitakere (1881).

St John's Lake (or Waitatarua), Remuera, with its brown teal (1886) and fernbirds (1878), was an important wetland at the time, but it was drained to provide more space for housing. A small marshy area remaining on the site of the lake (now known as the Waitatarua Park wetland) was re-flooded recently to provide habitat for waterfowl. The locality "Waitakere" was centred roughly on the site of the present Waitakere Railway Station and probably included the northern end of the Waitakere Ranges (Cascade Park) and possibly as far as the coast at Bethells (E.G. Turbott, pers. comm. 2005). "Titirangi", by contrast, was the southern end of the Waitakere Ranges.

Until the early 20th century, fairy terns probably bred widely at coastal sites around the North I (Heather & Robertson 1996). The 2 from Orakei (1878) were collected in late Mar and Apr. LB4931 (Fig. 2B) is an adult with a black crown and yellow bill; LB4932 is immature with a grey crown and dark bill. They could have dispersed to the area post-breeding, or there may have been breeding at Orakei. Black-fronted terns regularly winter in certain parts of the North I (Heather & Robertson 1996), but they are very rare in the Auckland area. The black-fronted tern collected by WJC at the Manukau Harbour in Jun 1879 may indicate that the species was more common at Auckland then because Auckland Museum has another specimen (LB2919), collected on the Manukau by TFC on 3 Jul 1884. Similarly, the black stilt collected at Mangere in Jul 1879 (Fig. 2A), would be a rare sighting there today.

During the 19th century, bellbirds disappeared, and are currently absent, from much of the Auckland region. WJC collected 1 on Motuihe I, between Waiheke and Rangitoto Is, in 1883, and the species persisted there until c.1969 (Lee 2005) and then died out.

The dates of the skins collected by W.J. Cheeseman suggest that he collected birds mainly when he was in his twenties. Building a bird collection may have provided a link between WJC's interest in shooting and the scientific involvement in natural history of his elder brother. However, collecting itself was considered to be part of natural history at that time so WJC's collection may have just been his own contribution to the field.

Emma's contribution may have been more inclined to filling a family need: taxidermy was an unusual, but not unknown, pastime for young women in the 19th century. During TFC's time at Auckland Museum, a constant theme was the difficulty the Museum had in getting taxidermy done (Gill 2000), partly because it lacked funds to pay a taxidermist but also because such skills were in short supply in the Colony. Andreas Reischek served as Museum taxidermist for a short period in

1880-81, as did C.F. Adams in 1885-86 (Gill 2004). It is perhaps not surprising that one of the Cheeseman sisters, already trained in delicate manual skills such as drawing and embroidery, was induced to take up taxidermy to help out.

The specimens collected by W.J. Cheeseman show that he travelled widely in the 1870s and 1880s in the greater Auckland region, from Titirangi and Waitakere in the west, to as far south as Pokeno and Mangatawhiri. He was at Whangarei Heads in Aug 1878, on Motuihe I in 1879 and again in 1883, and on Waiheke I in 1882. He may have visited Norfolk I in Dec 1895.

The total of 78 W.J. Cheeseman skins and mounts accounted for in the Auckland Museum collection, many collected after 1878 falls well short of the 103 received by the Museum in 1877-78 alone. No doubt other skins were treated as duplicates and exchanged with other museums in New Zealand or around the world, which was a preoccupation of TFC over several decades (Gill 2000). Indeed, 2 specimens of New Zealand dotterels at the American Museum of Natural History, New York (736283, Mangere, 26 Jun 1878; 818658, Orakei, Jul 1892) have the initials W.J.C. on their labels (John Dowding, pers. comm. 2006) and are likely to be from the Cheeseman series. It is not known when the specimens WJC collected after 1878 were acquired by Auckland Museum. They were probably received without the transactions being noted in the Museum's annual reports. They may even have been retained by the family until 1928 and included in the sale in that year, although their Griffin catalogue cards do not indicate that they were part of a purchase.

It is doubtful that WJC collected in the South I. There are specimens from "Taipo" collected in 1875 in museums in New Zealand and elsewhere, and there are 2 in Auckland Museum in addition to the 2 from the Cheeseman family collection. Taipo specimens are from the valley of the Taipo River, a branch of the Upper Taramakau River, Arthur's Pass National Park, Westland (J.A. Bartle, pers. comm. 2005). A collector active in this area presumably sold skins widely to museums.

The presence of the Taipo skins in the collection sold to Auckland Museum in 1928 indicates that the Cheeseman family (and presumably TFC in particular) may have been building a collection of New Zealand birds generally, and not just those collected by the family in Auckland and at other northern North I localities although the skins may have just been available and an agreeable addition to the collection. TFC kept a personal herbarium of more than 10,000 specimens that he either presented (Cockayne 1923) or bequeathed (Goulding 1996) to the museum. The bird skins purchased from Miss Cheeseman in 1928 may have been from a personal

bird collection accumulated in parallel to the plants.

The Cheeseman family study skins have been available to researchers for many decades, and the information they give of the presence of bird species in time and place is all known in general terms. However, listing the specimens and providing details on the origin of the collections, may provide a useful view of the avifauna of the Auckland region in the late 19th century, well after the onset of European settlement.

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