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Willie La Roche (1872–1942): Ship’s engineer, shell collector and contributor to Auckland Museum’s malacology collections

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Abstract

For much of the 1920s ship’s engineer Willie La Roche (1872 – 1942) obtained specimens of terrestrial, fresh-water and marine molluscs, as well as bulk marine sediment samples, many of which came into the collections of Auckland Museum. This article gives a brief biography of W. La Roche as collector and contributor to Auckland Museum’s marine invertebrate collection and highlights why his contributions were important.

Keywords

Willie La Roche; shell collecting; Northern Steam Ship Company.

INTRODUCTION

Within any museum collection there will be names of contributors that crop up with greater frequency than others. One such name in the molluscan collection of Auckland Museum is that of Willie La Roche. La Roche was a ship’s engineer with the Northern Steam Ship Company (NSS Co.) (La Roche family pers. comm., 2021; e.g., New Zealand Herald 1928), who appears to have started collecting shells relatively late in life, but who nevertheless left a worthy malacological legacy.

Auckland Museum’s marine invertebrate collection contains at least 550 specimen lots of molluscs and four of brachiopods, as well as bulk samples from nine localities, that can be attributed to W. La Roche with certainty. A lot is here defined as one or more specimens of the same species which have identical collecting data and which have been catalogued together as a single unit of registration. The bulk samples, despite their designation, are not large in volume but consist of unsorted sediment or shell samples. Similarities in localities and collecting dates suggest that there may be many more specimens which could be attributed to La Roche but, because label data do not specifically record a source for these specimens, it is impossible to be certain. Although numerically not particularly impressive, the material stands out because it was the source of many previously undescribed taxa. It also provided information on offshore environments that, at the time, were not generally accessible to science.

Almost exactly two-thirds of the specimen lots are marine in origin while the remaining third consists of land snails and two lots of freshwater bivalves. The marine material largely came from northern localities,

such as Taupo Bay, Whangaroa Harbour, Mangonui Harbour, Doubtless Bay and Rangaunu Bay, but some also came from near Great Barrier Island, off Ahipara, Opotiki and Whanganui. The non-marine specimens were mostly collected in the north of the North Island near Whangarei, Awanui and Hokianga, but also from around Auckland (including Waiheke Island), Kawhia, and with substantial numbers from the Whanganui and West Coast regions (Table 1). Furthermore, the marine lots contain 20 fossil lots, including the brachiopods, and these are all from the Pleistocene deposits at Castlecliff, Whanganui, with the remaining lots Recent in age.

Collectively the La Roche specimens contributed one new family, two new molluscan genera and 70 new species (Appendix 1), of which the family, genera and 63 species are still currently accepted taxa. The family Larocheidae Finlay, 1927, genera *Larochea* Finlay, 1927 and *Larochella* Powell, 1927, and the species *Mysella larochei* Powell, 1940, *Euchelus* (*Herpetopoma*) *larochei* Powell, 1926 (Fig. 1), *Aoteatilia larochei* Powell, 1940, *Splendrillia larochei* Powell, 1940, *Marginella* (*Glabella*) *larochei* Powell, 1932, *Laoma* (*Phrixgnathus*) *larochei* Powell, 1928, *Eulimella larochei* Powell, 1930, *Rissoina larochei* Finlay, 1930 and *Alcithoe larochei* Marwick, 1926 were all named in his honour (Appendix 1). They are represented in Auckland Museum by 69 primary types, 52 secondary types (Blom 2017, 2019, 2020) and more than 430 specimen lots in the general collections.

WHO WAS WILLIE LA ROCHE?

Willie La Roche (6 September 1872 – 17 February 1942) was born at Khyber Pass Rd, Auckland and was the seventh of eleven children—three of whom died in infancy—of



Figure 1. *Euchelus* (*Herpetopoma*) *larochei* Powell, 1926, from La Roche's Whangaroa samples. (Courtesy of Auckland War Memorial Museum, MA72060, photographer Peter Quin).



Figure 2. Senior Engineer W. La Roche in 1909 in his Northern Steam Ship Co. uniform. (Courtesy of Auckland Libraries Heritage Collections 31-58315, photographer Herman Schmidt).



Figure 3. The SS *Arapawa* berthed at Port Waikato with barges and the SS *Tarawera* and SS *Erin* alongside. (Courtesy of Hamilton City Library, Heritage Collections).

Charles Walton La Roche and Caroline Hall. He married Ann Amelia Hume on 11 October 1879 at Grafton and they had six children, four of whom survived to adulthood (*Bay of Plenty Times* 1908a; Ancestry.com 2021).

Little is known of La Roche's early years, but as a young man he trained as a ship's engineer with the Northern Steam Ship Company (Fig. 2). This was at a time when the first full-powered steamships began routinely plying New Zealand coastal waters (Te Ara 2021) and he appears to have stayed with the NSS Co. until retirement (La Roche family pers comm. 2021).

The NSS Co. was incorporated in 1881 when a deal was struck with the much larger Union Steam Ship Company. The deal secured for the NSS Co. the northern trade routes from Opotiki along the east coast to Parengarenga Harbour in the north, and from Hokianga Harbour to Whanganui along the west coast (New Zealand Maritime Museum 2021). There is no definitive record of the ships on which La Roche served, but we know that he worked on the SS *Muritai* (*New Zealand Herald* 1908a), SS *Tasman* (*Bay of Plenty Times* 1908b), SS *Ngatiawa* (*Bay of Plenty Times* 1908a), SS *Aupouri* (*Wanganui Chronicle* 1919), SS *Rimu*

Table 1. Geographic localities at which W. La Roche collected specimens. Listed from north to south along the east coast of the North Island, followed by those from north to south along the west coast of New Zealand. For a large number of specimen lots depths and dates are unrecorded, but where available they are listed here, followed (in brackets) by the number of specimen lots which have these data. All localities are for marine specimens, except for one fossil site indicated as † and eight non-marine localities written in italics.

| Locality | # Specimen lots | Depths, (#) specimen lots | Dates, (#) specimen lots |
|-----------------------------|-----------------|--|---|
| East coast | | | |
| Piwhane/Spirits Bay | 1 | | |
| Parengarenga | 8 | | 1925 (4); 1926 (4) |
| <i>Awanui</i> | 29 | | 1920 (11); 1928 (13) |
| Rangaunu Bay, offshore | 64 | 9 m (3); 18 m (1); 22 m (50); 29 m (3) | 1920 (1); 1922 (19); 1925 (1); 1926 (1) |
| Rangaunu Bay, Houhora | 11 | | 1925 (7); 1926 (1) |
| Rangaunu Harbour, Kaimaumau | 1 | | 1924 |
| Doubtless Bay, off Mangonui | 60 | 11 m (55); 15 m (2) | 1922 (46); Jun 1924 (4); 1929 (2) |
| <i>Whangaroa</i> | 6 | | |
| Whangaroa Bay | 67 | 13 m (3); 18 m (3) | 1922 (5); 1923 (1); 1924 (3) |
| Cavalli Islands | 3 | | |
| Matauri Bay | 1 | | 1925 |
| Bay of Islands, Opuā | 1 | | 1920 |
| <i>Whangarei</i> | 20 | | 1920 (3), 1922 (1) |
| Whangarei | 2 | | 1920 (1) |
| Great Barrier Island | 9 | 11 m (5) | 1924 (4) |
| <i>Auckland</i> | 30 | | |
| Auckland | 10 | 36 m (3) | |
| Coromandel, west coast | 1 | | 1922 |
| Coromandel, east coast | 4 | | 1925 (1); 1926 (1); 1928 (1) |
| Tauranga | 6 | | |
| Mt Maunganui | 5 | 11 m (1) | |
| Whakatane 'Heads' | 1 | | 1923 (1) |
| Ohiwa | 1 | | |
| Opotiki | 18 | | 1921 (3); 1922 (4); 1923 (1) |
| Opotiki, offshore | 9 | 28 m (1); 30 m (1); 33 m (5); 55 m (1) | 1921 (5) |
| Tolaga Bay | 3 | | Oct 1924 (3) |
| Gisborne | 2 | | Sep 1924 (2) |

| Locality | # Specimen lots | Depths, (#) specimen lots | Dates, (#) specimen lots |
|------------------------|-----------------|---------------------------|--|
| West coast | | | |
| Ahipara Bay | 11 | 42 m (11) | Jul 1925 (11) |
| <i>Kaitaia</i> | 1 | | 1920 |
| <i>Hokianga</i> | 51 | | 1920 (1); 1921 (25); 1923 (2); 1928 (6), 1932 (4) |
| Hokianga | 1 | | 1927 |
| Port Waikato | 1 | | |
| <i>Port Waikato</i> | 7 | | 1927 (2) |
| Raglan Harbour | 3 | | 1923 (2) |
| Raglan, offshore | 3 | 22 m (2); 37 m (1) | |
| Kawhia | 6 | | 1926 (2) |
| <i>Manawatu</i> | 1 | | |
| <i>Whanganui</i> | 44 | | 1927 (3); 1928 (21) |
| Whanganui† | 20 | Coastal cliff-section | Nov 1926 (4) |
| Whanganui, offshore | 8 | 18 m (8) | 1927 (8) |
| Wellington, Island Bay | 2 | | |
| <i>Westport</i> | 14 | | |
| Stewart Island | 2 | | |

(*Taranaki Herald* 1914) and *SS Arapawa* (*New Zealand Herald* 1928) (Fig. 3) amongst others.

Working on board a steamship was dangerous and not for the faint-hearted. The services ran day and night, in poor weather, had to accommodate the tides as many harbour entrances had bars, e.g., Manukau, Rangaunu Harbour, and ports of call were sometimes up narrow winding rivers, e.g., Awanui. As chief engineer on the *SS Tasman* in September 1909, Willie suffered the loss of half a finger on his right hand when it was caught in some machinery (*Bay of Plenty Times* 1909).

It appears he was wrecked—or nearly so—at least three times. At 4 am on 27 May 1908 in ‘thick weather’, the *SS Muritai* struck West Chicken [Lady Alice] Island on what is now called Muritai Point. The ship was lost (Fig. 4), but there was no loss of life as the passengers and crew were able to depart the steamer via a ladder from the bow onto the rocks (*New Zealand Herald* 1908b).

On 28 May 1911 while coming into the Manukau Harbour in fog the *SS Rimu* ‘touched on south spit’. As result, as Chief Engineer, La Roche was called to a hearing with others of the crew. However, because the ship came free it was decided any further inquiry was unnecessary (Archives New Zealand 2020).

On 26 October 1928 he was almost wrecked a second time, on the Manukau Bar, on a return trip from Whanganui. The *SS Arapawa* (Fig. 3) arrived just before 9 am when she ran into trouble while crossing the bar when the engines failed after the spectacular disintegration of one of the cylinders due to a broken crankshaft bolt. Two anchors were dropped just in time to stop the disabled

ship from foundering on the bar. However, she was pounded by breakers ‘as she lay broadside on [and] great seas buried the decks every few minutes, flooded the engine room and the cook’s galley’ (*New Zealand Herald* 1928). The captain and crew were able to jury-rig enough sail to get them to relative safety while La Roche attempted unsuccessfully to get the engines restarted with the remaining two cylinders. After hours of tossing in the breakers they were finally rescued by the Anchor Line Steamer, *SS Alexander* and towed into Onehunga Wharf shortly before 7 pm (*New Zealand Herald* 1928). When Willie finally made it home and mentioned being nearly shipwrecked, his wife, who was busy playing cards with her friends, told him that his dinner was in the oven (La Roche family, pers. comm. 2021).

LA ROCHE THE COLLECTOR AND DONOR

Little is known about when or why Willie La Roche started collecting shells. The earliest of his shells in the Auckland Museum Collections have a 1919 collecting date and he donated presumed Natural History specimens to at least one other institution. On 12 November 1919 the Wanganui Chronicle cited the donation of a ‘marine eel’ by Captain E.J. Keatley to Whanganui Regional Museum with the further reference that ‘Captain Keatley has previously made a number of very acceptable donations. Another donor is Mr W. La Roche, the chief engineer of the *Aupouri*.’ (*Wanganui Chronicle* 1919).

Despite the extensive holdings of La Roche specimens, no record has been found that La Roche



Figure 4. The SS *Muritai* aground on Muritai Point, Lady Alice Island.
(Courtesy of Auckland Libraries Heritage Collections, AWNS-19080604-5-1, photographer E. De Tourret).

donated his shells as a single collection directly to Auckland Museum. A check of the Museum's Annual Reports and acquisition registers show that he gave a box of fossils from coastal cliffs, west of the Whanganui River mouth in 1919; a fossil, *Cucullaea* specimen from Tolaga Bay in 1924; a *Tellina* fossil from Mercury Bay in 1925; the holotype of *Alcithoe larochei* Marwick, 1926 in 1925; some slugs from Parengarenga in 1926; a 'sea egg' from Stephenson Island in 1927; the holotype of *Turbonilla aoteana* Powell, 1930 from Great Barrier Island in 1930; and a 'collection of land snails from Whangarei' in 1932. No other records appear to exist for any further Natural History donations La Roche may have made, and it appears that the bulk of his material probably came to Auckland Museum via A.W.B. Powell.

On 14 December 1922, a 21-year-old A.W.B. Powell, who was appointed Auckland Museum's first Curator of Conchology and Palaeontology in 1929, read a paper before the Auckland Institute in which he described *Epitonium bucknilli*. This had been newly discovered by Dr Bucknill at Mount Maunganui, but Powell also credited La Roche for 'his invaluable assistance' in providing him with further specimens of the species from Whangaroa (Powell 1924).

Auckland was socially a small place in the 1920s and W. La Roche and A.W.B. Powell presumably knew each other through their respective memberships of the Auckland Institute and Museum. Powell joined in May 1920 as a 19-year-old and La Roche, along with his son William Ernest, were elected as members in February 1922 (Auckland Institute and Museum Minute Book

1916–1923). He is listed as a Life Member in 1931/32 until his death in 1942 (Annual Report of the Auckland Institute and Museum 1931/32).

Most of La Roche's known collecting dates fall between 1922 and 1930, the period when he was an Institute member. It is therefore tempting to speculate that he may have been influenced in his choice of hobby as a result of meeting Powell and like-minded amateur collectors, when he joined the Institute, but the land snails in his collection were all collected in 1920 and 1921, so prior to his membership. However, it is possible that he may have known Powell before then as Ernie (William Ernest) La Roche and Powell were of similar age (born 1 September 1899 and 4 April 1901 respectively). Both went to Auckland Grammar School when it was located half-way down Symonds Street at a site which is now part of the University of Auckland Campus (Auckland Grammar School 2021). At the time Auckland Museum was located less than a kilometre away in Princes Street, on the other side of the University grounds.

Powell had a long-standing association with Auckland Museum and was already part of a wide scientific network before his appointment as Curator of Conchology and Palaeontology in 1929. In 1916, aged 15, he had been made Honorary Curator by T.F. Cheeseman when the Museum was still at Princes Street and Cheeseman its sole curator (Cernohorsky 1988).

In 1929, when Auckland Museum moved to the new and larger building in the Auckland Domain and Powell became a permanent curator, his private collection of some 60,000 lots was deposited in the Museum by

special arrangement with the Museum Council (Powell *et al.* 1967). Therefore, if La Roche gave shells and bulk sediment samples to Powell before 1929 these would have come with him as part of the latter's private collection.

LA ROCHE'S SAMPLES AND SAMPLING LOCALITIES

La Roche specimen lots came predominantly from marine localities, but there are also land snails from Northland, Auckland, Whanganui and Westport, two lots of freshwater bivalves from Northland and Manawatu, and a few fossils from the Whanganui area. (Table 1). Of the nearly 550 known La Roche specimen lots just under 50% (272) have no known collecting date. A further 40 of these can be date-matched to dated lots based on additional location and depth data.

Samples are presumed to have been mostly collected by him (e.g., Powell 1926, 1930a, 1930b, 1933b, 1940). However, he also obtained material from other mariners, such as "a fine haul of mollusca from 23 fathoms off Ahipara Bay" that he received in July 1925 from Mr D. Crawford, the engineer on the steam trawler *Serfib* (Powell 1927).

Many of the place names coincide with ports at which ships of the NSS Co. fleet called regularly, such as Mangonui, Whangaroa, and Rangaunu Bay, which crop up frequently (Fig. 5). Samples may have been collected during scheduled runs, but as the NSS Co. also ran very popular day or weekend excursions to bolster their income these may have provided further collecting opportunities.

The spread of localities and dates (Table 1) suggests that indeed many samples were collected opportunistically. Three location records in the Auckland Museum database which were created in the 1990s documented the five associated specimen lots (MA5112, MA14707, MA27865, MA67144 and MA72033) from Whangaroa as originating from the 'La Roche Expedition'. However, there is no mention of a 'La Roche Expedition' on any of the labels which accompany the specimens, nor in any of the Powell, Finlay or Marwick publications which refer to La Roche's contributions.

There is also considerable confusion around some of the northern localities, particularly those in the vicinity of Rangaunu Bay. Labels frequently use un gazetted names, such as Awanui Bay and Awanui Heads as well as the gazetted Rangaunu Bay and Rangaunu Harbour. It is not clear whether Awanui Bay is used interchangeably with the open-ocean Rangaunu Bay or the largely enclosed Rangaunu Harbour. However, neither Rangaunu Harbour nor Awanui Bay (= Rangaunu Harbour) are supported by the collecting depths given, which indicate the bulk of material was collected well offshore in Rangaunu Bay. All but seven of the 60 specimen lots are from 9 m (5 fathoms) or greater depth and the majority of these (44) are from 22 m (12 fathoms) water depth. This latter depth does not occur anywhere within Rangaunu Harbour (Fig. 6) and within Rangaunu Bay it is reached only at a distance of >4 km offshore.

In addition, Powell (1940) refers multiple times to La Roche specimens as coming from 'Off Awanui in 12 fathoms, Doubtless Bay'. The similarity between this

depth and that of samples from Rangaunu Bay, suggests that he used 'Doubtless Bay' incorrectly. Particularly as the depth for all other La Roche's Doubtless Bay samples were given as 5–6 fathoms or 6–12 fathoms.

Similarly, Whangaroa Harbour and Whangaroa Bay appear to have been used interchangeably, but the few known depths associated with samples, as well as the species represented in them, indicate that they were collected offshore in Whangaroa Bay or the entrance to Whangaroa Harbour rather than the much shallower harbour itself.

The bulk samples come from nine different marine localities (Table 2) which duplicate some, though not all, of the localities listed in Table 1. This is unsurprising as presumably these are the original samples which were used to search for new species. However, there are also two bulk samples, from Whangamata and off-shore Otago, which do not appear to be represented in the Auckland Museum collection by corresponding specimen lots.

In conclusion, the majority of samples appear to have been collected opportunistically, but with three clusters of samples with similar data suggesting that some samples were obtained during deliberate dredging events (Tables 1, 2). These were at Rangaunu Bay, from 9–22 m depth in 1922; Doubtless Bay, off Mangonui, from 11–16 m depth in 1922; Whangaroa, from 13 m depth possibly also in 1922. Whether the 1922 collecting was a single 'La Roche Expedition' or not could not be verified.

The bulk samples also support the premise that La Roche's marine specimens came to Auckland Museum via Powell's own collection and not directly from La Roche. Many of the bulk sediment samples consisted of sediments accompanied by small glass tubes containing specimens sorted to class (Gastropoda and Bivalvia) or even to genus or species level, although none was named as such. The tubes were of the type used widely by Powell and all accompanying labels were in his handwriting. This suggests that Powell received his material as bulk sediment samples, which he then sorted for useful specimens. The unused sorted portions were then stored with the remaining sediments for potential future use.

La Roche may have predominantly given his bulk samples to Powell, but it is likely that he would also have shared these, either directly or indirectly, with members of Powell's scientific network. Both H.J. Finlay and J. Marwick also described species from La Roche's bulk samples. Finlay (1924) acknowledged receiving a specimen 'dredged by Mr. W. La Roche in 20 fathoms off Opotiki, Bay of Plenty' in a paper first read by Finlay before the Otago Institute on 12 December 1922 (Finlay 1924). Likewise, in a paper he first read before the Wellington Philosophical Society on 8 October 1924, Marwick (1926) described a new volute species, *Alcithoe larochei*, collected from 55 m (30 fathoms), off Opotiki, 'which was kindly forwarded by Mr W. La Roche, of Auckland.'

H.J. Finlay only infrequently credited other collectors either on his labels or in his publications. However, material from Doubtless Bay (from 11 m (6 fathoms)), Awanui [Rangaunu Bay] (from 22 m (12 fathoms)), and Taupo Bay figured large amongst his samples (e.g., Finlay



Figure 5. Map of the Auckland Province showing in red steamboat routes plied by the Northern Steam Ship Company after 1881. Insets: 1. Thames River from its mouth to Paeroa (scale: 4 inches = 1 mile); 2. The wharves, Auckland, with Northern Steamship Co. berths and offices (scale: 200 feet = 1 inch); 3. Waiheke Island; 4. The breakwater and wharf, New Plymouth (Courtesy of Auckland War Memorial Museum, G9081.P54).

Table 2. List of localities with depths for which some bulk sample is held at Auckland Museum. There is one fossil locality (†). All hand-written labels with the bulk lots are in A.W.B. Powell's hand and none records a collection date.

| Locality | Depth | # of samples |
|---|------------------------|--------------|
| Northland, Awanui [Rangaunu] Bay | 5-12 fathoms [9-22 m] | 1 |
| Northland, Awanui [Rangaunu] Bay | 12 fathoms [22 m] | 1 |
| Northland, Awanui Heads [entrance to Awanui Bay] | none recorded | 1 |
| Northland, Kaimaumau | none recorded | 1 |
| Northland, Rangiawhia | none recorded | 1 |
| Northland, Doubtless Bay | none recorded | 1 |
| Northland, Doubtless Bay | 6-7 fathoms [11-13 m] | 1 |
| Northland, Doubtless Bay | 8 fathoms [15 m] | 1 |
| Northland, Doubtless Bay | 10 fathoms [16 m] | 1 |
| Northland, off Mangonui | 6 fathoms [11 m] | 2 |
| Northland, off Mangonui | 6-10 fathoms [11-16 m] | 2 |
| Northland, Mangonui Heads [entrance to Mangonui Harbour] | 6-10 fathoms [11-16 m] | 2 |
| Waikato, Whangamata | none recorded | 1 |
| Otago, 10 miles [16 km] ENE of Otago Heads [Taiaroa Head] | 50 fathoms [91 m] | 1 |
| † Manawatu-Whanganui, Castlecliff | coastal cliff-section | 1 |

1926, 1927, 1930). Given the similarities in sites and depths, it is assumed that he received this material either from Powell or directly from La Roche. Any La Roche-derived specimens in the Finlay Collection would have come to Auckland Museum in 1937 when H.J. Finlay sold his collection to the Museum (Powell *et al.* 1967).

SIGNIFICANCE OF THE LA ROCHE DONATIONS

Until well into the 20th century marine scientists working in New Zealand waters were hampered by the lack of opportunities to sample anything but shallow coastal waters. As Powell (1927: 295) noted in reference to material obtained from 42 m (23 fathoms) by D. Crawford of the steam trawler *Serfib*, 'Palaeontological workers in New Zealand are greatly handicapped through lack of recent deep-water faunal lists.'

A 1904 meeting of the Australasian Association for the Advancement of Science, held in Dunedin, led to dredging expeditions being organized off Port Chalmers in 183–549 m (100–300 fathoms) of water, and Great Barrier Island in 201 m (110 fathoms). The southern expedition was unsuccessful due to rough weather and the loss of gear, but the latter yielded 'about a third of a ton of sea-bottom' (Hedley 1906).

However, prior to La Roche's collecting, offshore material was mostly serendipitously provided through the goodwill of mariners such as Captain John Bollons, who for many years captained New Zealand government

steamers which supplied lighthouses and remote islands. He had an interest in natural history, collected specimens on some of his journeys and made these available to others (Wikipedia 2021).

Unsurprisingly, the very limited information available to New Zealand scientists during the early parts of the 20th century had skewed hypotheses on New Zealand marine biogeography and palaeobiogeography. La Roche's samples provided comparative material which allowed refinement of these (e.g., Powell 1927, 1933a). The 'about one gallon of shells and shell fragments' which were caught up in the trawl nets of the *ST Serfib* from 42 m (23 fathoms) off Ahipara were the first from the west coast of New Zealand. Though not collected by La Roche, he secured the sediments from Mr D. Crawford, the *Serfib*'s engineer, and made them available to Powell. The species which were discovered challenged existing biogeographical and palaeobiogeographical hypotheses. Species which had previously been found only in deeper water were occurring in much shallower waters: 'The above indicates that our deeper-water species do not occupy narrow zones, so that any one species cannot be taken as always representing a definite depth.' (Powell 1927: 295).

Similarly, based on the marine fossils it contained, the ~160 m thick sequence of Pleistocene sedimentary strata along the Castlecliff coast, Whanganui, was previously thought to have been deposited in 183 m (100 fathoms). However, species represented in the



Figure 6. The SS *Apanui* coming into the Northern Steam Ship Company's wharf at Awanui, Northland. The Awanui Channel leading up into the Awanui River, was for the most part less than 2 m deep. (Courtesy of Whangarei District Libraries, Heritage Collections, Florence Keene Photograph Collection).

Serfib sediments were also represented in the Castlecliff sequence. As Powell (1927: 295) wrote: 'From solely a faunal argument therefore the Castlecliff beds in the light of the Ahipara results are just as typical of depths between 20–25 fathoms.'

Therefore, apart from contributing a disproportionate number of new taxa, La Roche's samples were also significant because they provided a rare glimpse into otherwise inaccessible environments, and so extended our knowledge of New Zealand's natural history.

Finally, his material continued to yield new taxa long after his death in 1942. As late as 1965 Ponder (1965) described a new species of *Eatoniella* from a sample collected by La Roche from Doubtless Bay.

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REFERENCES

- Ancestry.com 2021. <https://ancestrylibrary.proquest.com/aleweb/ale/do/login>, accessed on 08 July 2021 through the Auckland Museum Cenotaph Database.
- Annual Report of the Auckland Institute and Museum for 1931–1932. Auckland: Brett Printing and Publishing Co. Ltd, 56 pp.
- Archives New Zealand 2020. Archway Record R16243641. <https://www.archway.archives.govt.nz/ViewFullItem.do?code=16243641>, accessed on 25 September 2020.
- Auckland Grammar School 2021. The School's History. <https://www.ags.school.nz/about/our-history/>, accessed on 01 March 2021.
- Auckland Institute and Museum Minute Book 1916–1923. https://www.aucklandmuseum.com/collections-research/collections/record/am_library-manuscriptsandarchives-11353?par=http%3A%2F%2Fapi.aucklandmuseum.com%2Fid%2Flibrary%2Fmanuscriptsandarchives%2F10915&ordinal=0, accessed on 20 March 2021.
- Bay of Plenty Times 1908a. Local and General. *Bay of Plenty Times* 36 (5241): 2. <https://paperspast.natlib.govt.nz/newspapers/BOPT19080807.2.5>, accessed on 08 July 2021.
- Bay of Plenty Times 1908b. The S.S. Tasman. *Bay of Plenty Times* 36 (5251): 2. <https://paperspast.natlib.govt.nz/newspapers/BOPT19080831.2.3.6>, accessed on 08 July 2021.

- Bay of Plenty Times 1909. Local and General. *Bay of Plenty Times* 38 (5412): 2. <https://paperspast.natlib.govt.nz/newspapers/BOPT19090922.2.10>, accessed on 08 July 2021.
- Blom, W.M. 2016. Fossil and Recent molluscan types in the Auckland Museum. Part 1: Bivalvia. *Records of the Auckland Museum* 51: 1–48.
- Blom, W.M. 2019. Fossil and Recent molluscan types in the Auckland Museum. Part 3: Gastropoda (Patellogastropoda and Vetigastropoda). *Records of the Auckland Museum* 54: 37–62.
- Blom, W.M. 2020. Fossil and Recent molluscan types in the Auckland Museum. Part 4: Gastropoda (Caenogastropoda – Neocyclotidae to Epitoniidae). [Cyclophoroidea, Cerithioidea, Littorinimorpha]. *Records of the Auckland Museum* 55. <https://www.aucklandmuseum.com/discover/research/publications/records/vol55>, accessed on 15 July 2021.
- Cernohorsky, W.O. 1988. Arthur William Baden Powell (1901–1987). A brief biography and bibliography with a list of molluscan taxa. *Records of the Auckland Institute and Museum* 25: 1–38.
- Finlay, H.J. 1924. Additions to the Recent molluscan fauna of New Zealand. *Transactions and Proceedings of the New Zealand Institute* 55: 517–526.
- Finlay, H.J. 1926. A further commentary on New Zealand molluscan systematics. *Transactions and Proceedings of the New Zealand Institute* 57: 320–479.
- Finlay, H.J. 1927. Additions to the Recent molluscan fauna of New Zealand. No. 2. *Transactions and Proceedings of the New Zealand Institute* 57: 485–487.
- Finlay, H.J. 1930. Additions to the Recent molluscan fauna of New Zealand. No. 3. *Transactions and Proceedings of the New Zealand Institute* 61: 222–247.
- Hedley, C. 1906. Results of dredging on the continental shelf of New Zealand. *Transactions and Proceedings of the New Zealand Institute* 38: 68–76.
- Marwick, J. 1926. Tertiary and Recent Volutidae of New Zealand. *Transactions and Proceedings of the New Zealand Institute* 56: 259–303.
- New Zealand Herald 1908a. The Muritai wrecked. *New Zealand Herald* 45 (13761): 5. <https://paperspast.natlib.govt.nz/newspapers/NZH19080528.2.25>, accessed on 14 January 2021.
- New Zealand Herald 1908b. The Muritai wreck. *New Zealand Herald* 45 (13762): 6. <https://paperspast.natlib.govt.nz/newspapers/NZH19080529.2.74>, accessed on 28 January 2021.
- New Zealand Herald 1928. Small steamer in peril. *New Zealand Herald* 65 (20087): 12. <https://paperspast.natlib.govt.nz/newspapers/NZH19281026.2.37>, accessed on 24 September 2020.
- New Zealand Maritime Museum 2021 Northern Steam Ship Company. <http://www.nzmaritimeindex.org.nz/nssco/birth.htm>, accessed on 08 July 2021.
- Ponder, W.F. 1965. The family Eatoniellidae in New Zealand. *Records of the Auckland Institute and Museum* 6(2): 47–99.
- Powell, A.W.B. 1924. On a new species of *Epitonium*. *Transactions and Proceedings of the New Zealand Institute* 55: 138.
- Powell, A.W.B. 1926. Descriptions of two new gastropods from Whangaroa, New Zealand. *Proceedings of the Malacological Society of London* 17: 36–38.
- Powell, A.W.B. 1927. Mollusca from twenty-three fathoms off Ahipara, N.Z. *Transactions and Proceedings of the New Zealand Institute* 58: 295–300.
- Powell, A.W.B. 1930a. New species of New Zealand Mollusca from shallow-water dredgings. *Transactions and Proceedings of the New Zealand Institute* 60: 532–543.
- Powell, A.W.B. 1930b. New species of New Zealand Mollusca from shallow-water dredgings. Part 2. *Transactions and Proceedings of the New Zealand Institute* 61: 536–546.
- Powell, A.W.B. 1933a. The high-tidal Mollusca of Rangitoto Island, Auckland; with descriptions of a new genus and two new species. *Transactions and Proceedings of the New Zealand Institute* 63: 144–152.
- Powell, A.W.B. 1933b. Notes on the taxonomy of the Recent Cymatiidae and Naticidae of New Zealand. *Transactions and Proceedings of the New Zealand Institute* 63: 154–168.
- Powell, A.W.B. 1940. The marine Mollusca of the Aupourian Province, New Zealand. *Transactions and Proceedings of the Royal Society of New Zealand* 70: 205–248.
- Powell, A.W.B., S.G. Brooker, C.O. Troup and E.G. Turbott 1967. *The Centennial History of the Auckland Institute and Museum*. Auckland, Unity Press Ltd, 88pp.
- Taranaki Herald 1914. Shipping. Northern Company's Fleet. *Taranaki Herald* 62 (144437): 7. <https://paperspast.natlib.govt.nz/newspapers/TH19140727.2.69>, accessed on 08 July 2021.
- Te Ara 2021. Early steamers. <https://teara.govt.nz/en/the-voyage-out/page-6>, accessed on 08 July 2021.
- Wanganui Chronicle 1919. A Strange Fish. *Wanganui Chronicle* 74 (17712): 4. <https://paperspast.natlib.govt.nz/newspapers/WC19191112.2.22>, accessed on 08 July 2021.
- Wikipedia 2021. John Bollons. https://en.wikipedia.org/wiki/John_Bollons, accessed on 14 January 2021

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