

The locality and date of collection of the holotype of New Zealand storm petrel, *Pealeornis maoriana* Mathews, 1932

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The discovery in 2003 of birds identified as New Zealand storm petrel *Pealeornis maoriana* prompted closer examination of the 3 nineteenth century museum specimens on which that species had been based: 1 in the British Natural History Museum at Tring (the holotype of *Pealeornis maoriana* Mathews, 1932), and 2 in the Museum National d'Histoire Naturelle, Paris. It has since been confirmed by both morphological and genetic analyses that the Tring and Paris specimens, and putative New Zealand storm petrels recently captured in the Hauraki Gulf, are indeed all the same species, *Pealeornis maoriana*, distinct from other storm petrels (Stephenson *et al.* 2008; Robertson *et al.* 2011).

The origins of the early specimens were considered by Bourne & Jouanin (2004), prompting a rejoinder by Medway (2004) and a reply by Bourne, Jouanin & Catto (2004). They came to a consensus on the 2 Paris specimens, that they were collected on the *Astrolabe* expedition, off East Cape, probably on 4 February 1827. However, the origin of the holotype (in the Tring collection) was left

unresolved. The Natural History Museum accession register lists this specimen as 1895.2.1.11, 1 of a collection of birds from New Zealand presented by G. Carrick Steet of London in 1895, and labelled with the locality “off Banks Peninsula”. This locality was considered doubtful by Bourne & Jouanin (2004), who suggested that the specimen “could come from the same area off Coromandel Peninsula as the recent photographs [of New Zealand storm petrel].” Medway (2004) disagreed. He noted that the localities of Steet’s other New Zealand birds are entirely plausible and argued that just as there was no reason to doubt the validity of those localities, neither was there any reason to doubt the validity of the “off Banks Peninsula” locality given for the storm petrel specimen. Bourne, Jouanin & Catto (2004) replied with a re-examination of the evidence. They identified Steet as a London surgeon who had retired in 1891, and suggested that he may have obtained his collection of New Zealand birds during a post-retirement world tour. And they continued to doubt the locality given for Steet’s specimen: “While the New Zealand storm petrel may well have been found off Banks Peninsula, other experience suggests this does not necessarily mean it came on board there, and it could have been in the area where other birds have occurred.”

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In an effort to resolve this uncertainty, historical records have been searched for any further information on Steet's world touring and collecting activities which might help to locate the place and date of collection of the New Zealand storm petrel specimen now in Tring.

A search of newspapers revealed that Steet's death in 1910 was noticed in New Zealand, with the comment that he had "accompanied the late Lord Pembroke as medical attendant in his tour to the West Indies, the Fiji Islands, and New Zealand in 1868-9" (*Evening Post* 4 January 1911 p. 4). Further checks revealed very extensive reporting of Lord Pembroke's visit to New Zealand, including Steet's involvement, although his name was almost always misspelled. The reports indicate that Steet was in New Zealand, as Bourne & Jouanin (2004) initially surmised, on a yacht cruise.

The numerous reports may be briefly summarised. George Herbert, the young 13th Earl of Pembroke, was considered to be in delicate health and was advised to take a sea voyage. He took a retinue including two doctors, George Carrick Steet and George Henry Kingsley. They arrived in Wellington in January 1868 and Pembroke chartered an 86-ton schooner, *Albatross*, to use as a cruising yacht, complete with its Captain, James Braund, and crew.

For their first cruise they sailed from Wellington south as far as Dunedin and then back north to Lyttelton, White Island, Tauranga and Auckland. Subsequent cruises were all to the north – to Kawau Island to visit Sir George Grey, to Great Barrier Island for shooting, to the Bay of Islands, Mangonui, Rangaunu Harbour, and further afield to Sydney and New Caledonia.

It should be noted that these destinations include all the localities given for the specimens that Steet presented to the British Natural History Museum in 1895. This strengthens Medway's (2004) argument about the plausibility of Steet's localities, including the "off Banks Peninsula" locality given for the storm petrel specimen.

Pembroke, Steet and Kingsley left New Zealand in March 1869 to return to England. However, by the end of the year Pembroke was back in New Zealand, with Dr Kingsley but without Dr Steet this time. Pembroke now purchased *Albatross* outright and cruised out of Auckland and into the Pacific, until wrecked on a reef in the Ringgold Islands, Fiji, in October 1870. Pembroke and Kingsley later made light of this, expressing most concern at the loss of the bird specimens Kingsley had collected on this cruise. After some adventures they returned safely to Auckland and did no more cruising before finally departing for England in March 1871.

There is no indication of any further visit to New Zealand by Steet, or Pembroke, although Kingsley

did visit again in December 1889 – February 1890 as medical attendant to another delicate young nobleman. They took regular steamship services to tour the country and there is no indication of any shooting excursions or natural history collecting.

Pembroke and Kingsley (as "The Earl and the Doctor") published an account of their later cruising and shipwreck in the Pacific Islands, under the title *South Sea Bubbles* (Pembroke & Kingsley 1872). This has only a few references to their earlier cruising in New Zealand. However, it makes clear that Pembroke had kept a journal of his cruises, and a search revealed that this is now held by the Wiltshire and Swindon History Centre, Chippenham, England. Copies were obtained of entries from the New Zealand cruise with Steet in 1868–69 for those periods (November to May) when New Zealand storm petrels might have been encountered. The only entries possibly referring to storm petrels are on the very first cruise in March 1868, when Pembroke, Kingsley and Steet sailed from Wellington south past Banks Peninsula to Dunedin and then back north again. Extracts from surrounding entries are included for context, beginning in early March 1868 as they sailed south: 3 March "When morning broke we were still off Banks Peninsula but the breeze sprung up gradually from the N.E. and continued all day... We lost sight of land in the afternoon."; 4 March "The wind settled down to the south and continued so all day. We saw a whale in the morning, spouting away like the fountain in Trafalgar Square. Doctor Steet caught a Cape pigeon with a hook & line. In the afternoon it fell calm and Doctor K went out in the small boat and shot birds – 1 big and 2 little petrels, 3 terns. In the evening a semi gale sprung up from South and we had rather a rough night of it (Lat. 45.01)."; 5 March "...We were hard at work all day scraping the paint off our boat, and skinning birds. In the evening we caught a lot of little shrimps, all ready boiled, or at least they were all red..."; 6 March "We were in the doldrums all morning. The sea was red with the little shrimps and looked as if patches of bran and sawdust had been spilt upon it. In the evening a light breeze sprung up and we arrived at the entrance of the neck that runs up to Port Chalmers..." (Pembroke 1868–70).

Later, on 28 March, during the passage back north, Pembroke made an entry evidently referring to Kingsley's shooting on 4 March: "The thing that strikes me as extremely curious is that sailors know little or nothing about the things around them. Not one of them knew anything about the things that we caught, or remembered having seen them before. Not long ago Doctor Kingsley shot a Mother Cary, and Captain Braund on looking at it, declared it was not a Mother Cary, as it was a well known fact that Mother Carys had one web and one claw foot!!!" (Pembroke 1868–70).

Another account of this incident, unattributed but in Kingsley's vivid literary style, is given in

South Sea Bubbles in an anecdote about the tall stories told by seamen. Kingsley describes his offshore bird-shooting and what was said about the "Mother Cary" he shot – revealing that Pembroke had entirely misread the import of Captain Braund's comment: "I remember once, in a dead calm, some distance from land, I embarked in the ship's dingy, accompanied by one of the most honest, truth-telling seamen I have ever met with, and, moreover, a man of intellect, and, for his position, considerable cultivation. Our object was to disport ourselves with the shooting of sea-fowl, which we did right joyously, getting fine steady 'pots' against the sides of the great rollers, or nipping them neatly as they showed over the tops. Moreover, we enjoyed the sight, at one moment, of the entire of our little schooner, as she showed herself, copper and all, at the top of a water-mountain two or three yards off, and then wished her good-by; as all disappeared but a yard and a half of her top-masts, with their little gilded trucks shining in the sun, as she sunk into the valley on the other side. The freckle of the coming breeze on the leaden-silver sea warned us on board. On exposing our spoil, there was a slight murmur among the men: 'Why, them's Mother Carey's chickens!' 'Tut!' quoth my friend, 'don't you see that these have got two webbed feet, and is it not a known fact that the real Mother Carey has one foot like a cock and the other like a duck?' 'Tis so, no fear!' responded the growler, and peace was restored" (Pembroke & Kingsley 1872, p. 178).

It should be explained that seamen of the time had a superstitious regard for storm petrels, as Buller (1873) observed, "calling them all 'Mother Carey's chickens,' and resenting as a positive sin any attempt to shoot or capture these 'spirits of departed sailors,' as they facetiously term them." Braund's comment was not ignorant, as Pembroke assumed, but a quick-witted rejoinder to defuse his crew's anger at the shooting of the storm petrels, while not embarrassing his thoughtless upper-class clients. But Kingsley understood, and evidently did not transgress by shooting storm petrels again.

The 3 passages taken together – Pembroke's account of Kingsley's off-shore bird-shooting on 4 March, his musing about Captain Braund's "Mother Carey" comment, and Kingsley's anecdote in *South Sea Bubbles* tying both these together – confirm that 1 or both the "small petrels" shot by Kingsley on 4 March 1868 were "Mother Carey's chickens", i.e. storm petrels. The noon latitude of 45° 01' that day is about the latitude of Oamaru, but given they were well off-shore and Banks Peninsula had been the last land sighted, "near Banks Peninsula" would have been a reasonable approximation to the locality. One of these birds is almost certainly the New Zealand storm petrel labelled with that locality presented by Dr Steet to the Natural History Museum in 1895. This is the simplest and most likely conclusion; any other explanation for the origin of Steet's specimen

would require very strained assumptions.

One alternative explanation in particular can be excluded. Bourne, Jouanin & Catto (2004) noted that the majority of Steet's New Zealand specimens came from Kawau and Great Barrier islands – in the Hauraki Gulf area where most of the recent records of New Zealand storm petrel have been – and went on to suggest that Steet's storm petrel "might have come on board a vessel there days before it was noticed when preparing to dock off Banks Peninsula." But the records of Steet's travels with Pembroke and Kingsley show there was no opportunity for this to occur. They arrived in New Zealand at Wellington and then chartered *Albatross*, which, according to newspaper reports of shipping movements, had not been in the Hauraki Gulf for several months past. After 3 more weeks in Wellington while *Albatross* was being refitted they sailed south past Banks Peninsula to Dunedin and then back north to Auckland. After that they cruised only to the north; they never sailed south from the Hauraki Gulf to Banks Peninsula.

We can thus conclude with some confidence that Steet's storm petrel specimen, the holotype of *Pealeornis maoriana*, did not originate in the Hauraki Gulf, but was shot at sea by G.H. Kingsley on 4 March 1868 some distance offshore, well south of Banks Peninsula, at about 45° 01' South.

More might be drawn from the information revealed in Pembroke's journal on the circumstances surrounding the storm petrel record – the early March date, the presence of Cape petrel, terns, a whale, the shoals of red "shrimps" (*Munida gregaria* post-larvae?). And if the "off Banks Peninsula" locality recorded for Steet's specimen must now be regarded as correct or nearly so, the implications of the occurrence of New Zealand storm petrel in North Otago waters, far south of all other known records of the species, must be given more serious attention. But I leave those questions to those more equipped to answer them.

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