

## Clarification of collection data for the type specimens of Hutton's Shearwater *Puffinus huttoni* Mathews, 1912, and implications for the accuracy of historic subantarctic specimen data

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**SUMMARY.**—Collection information for the type material of Hutton's Shearwater *Puffinus huttoni* Mathews, 1912, has long been debated. Contrary to some previous studies, we conclude that Sigvard Dannefaerd did not collect the holotype, now in the American Museum of Natural History (New York), nor was it collected in 1894. A more plausible scenario is that Henry Travers shot it off the subantarctic Snares Islands in January 1890. A sole paratype of the taxon, previously overlooked in the Natural History Museum (Tring), was perhaps collected in South Australia. Dannefaerd never visited New Zealand's subantarctic region, so several other type specimens supposedly collected by him there in 1894 must also have incorrect collection data.

Miskelly *et al.* (2001: 33–34) discussed the uncertainty surrounding the sex, collection location, collection date and collector of the holotype of Hutton's Shearwater *Puffinus reinholdi huttoni* Mathews, 1912 (now *Puffinus huttoni* Mathews, 1912), held in the American Museum of Natural History, New York (AMNH 527761; see Fig. 1). They concluded that it was a female that may have been collected at sea off The Snares, probably in 1894, by either Sigvard Dannefaerd or Henry Travers, or bought by one of these men from another collector. Since then we have located a paratype of the taxon and uncovered further information about the holotype's provenance and convoluted history.

The original description of Hutton's Shearwater (Mathews 1912: 77) does not clearly identify the specimens used for the type description, stating only that the 'Type' was in Mathews' collection and that 'a bird in the British Museum sent from the Adelaide Museum as having been obtained at Adelaide, South Australia, is referable to this southern form'. Additionally, Mathews noted that the taxon occurs in 'South Australia (accidental); Snares Island (breeding)', described the 'Adult male' and stated that the 'Adult female' is 'Similar to the male'. Clearly the description was based on at least two specimens which, by definition, must be types. AMNH 527761 has long been identified as the 'Type' (now holotype) but, confusingly, Greenway 1973 referred to it as both the holotype and, wrongly, as the lectotype. We are confident that AMNH 527761 is the holotype because it bears a Mathews' type label filled out in his own hand and it is the only Hutton's Shearwater in the AMNH that was in Mathews' collection. The South Australian specimen specifically referred to in the description is a paratype. It appears that Mathews (1912: 76) considered two other specimens in Walter Rothschild's collection at Tring to be also Hutton's Shearwaters, although they are not specifically mentioned in his formal description on the following page, so we do not consider them to be types. One of these other two specimens was apparently AMNH 527760—a male Fluttering Shearwater *Puffinus gavia* (J. R. Forster, 1844) with the same collection data as the Hutton's Shearwater holotype (see Miskelly *et al.* 2001). This is corroborated by one of the labels on AMNH 527760, which reads '*Puffinus reinholdi huttoni*', in Mathews' hand. The second bird was not specified by Mathews (1912), but it may well



Figure 1. The holotype of Hutton's Shearwater *Puffinus huttoni* Mathews, 1912; AMNH 527761 (© Matthew Shanley, American Museum of Natural History, New York)

be Fluttering Shearwater AMNH 527762, which is also a Dannefaerd bird, from 'New Zealand Seas' and labelled '*Puffinus reinholdi huttoni*' in an unknown hand.

When Mathews (1912: 76) examined these shearwaters in Rothschild's collection, the bird that subsequently became the holotype of Hutton's Shearwater was also part of this collection. By 1912, and after Godman examined it (Godman 1907–08), Mathews had evidently obtained this specimen for his own collection 'in exchange' from Rothschild (Hartert 1926: 348, Miskelly *et al.* 2001). Lists of exchanges to Mathews from Rothschild include single '*Puffinus gavia*' in both 1908 and 1910, but further details are lacking (AMNH, Ornithology Dept. archives). Contrary to a note reading 'G.M. Mathews coll.?' in the AMNH catalogue opposite AMNH 527760, and Miskelly *et al.* (2001), there is no evidence to suggest that Mathews ever had both Dannefaerd Snares shearwater specimens in his possession, but he had examined both in Tring. AMNH records indicate that the second Dannefaerd Snares shearwater specimen (Fluttering Shearwater; AMNH 527760) remained in Rothschild's collection until that was sold to the AMNH.

Specimen AMNH 527760 is one of the southernmost records of Fluttering Shearwater, but its collecting location has been questioned (Miskelly *et al.* 2001). Although these authors considered the collection data to be doubtful, it gains some support from a record of a mummified Fluttering Shearwater found by K. G. Simpson much further south, on

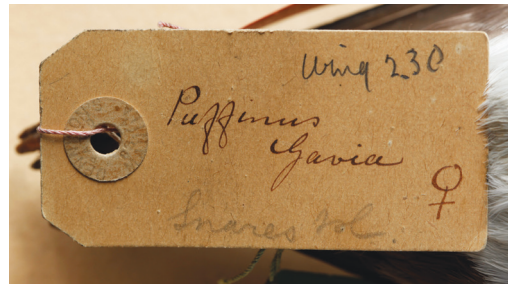


Figure 2. Label of the holotype of Hutton's Shearwater *Puffinus huttoni* Mathews, 1912; AMNH 527761; the scientific name, sex and collection location are written by Sigvard Dannefaerd; 'wing 230' is in Mathews' hand (© Matthew Shanley, American Museum of Natural History, New York)

Macquarie Island, in 1965 (Australian National Wildlife Collection (ANWC) no. 10602: AJDT pers. obs. December 2003).

The bird that we consider to be the sole paratype of Hutton's Shearwater had been overlooked and remained unlabelled as such in the Natural History Museum (BMNH), Tring, until 2011 (J. H. Cooper *in litt.* 2011), despite Mathews' (1912: 77) clear reference to the specimen (see above). This specimen (BMNH 1888.12.9.7) was acquired from the London dealer Edward Gerrard Jr. with a batch of seven other birds originating from the museum in Adelaide (J. H. Cooper *in litt.* 2011). All eight birds have the locality recorded as 'Adelaide', yet some of the relevant taxa do not occur near Adelaide, so their locality information is unreliable and may be wrong (J. H. Cooper *in litt.* 2011). It seems probable that the location 'Adelaide' was attached to the birds simply because they originated from the museum in Adelaide. The registration dates indicate that this batch was received at BMNH in or before 1888, but no further collection details or sex are available for the shearwater. R. A. Falla confirmed the identification in 1962, noting on the label 'This is *huttoni*' (J. H. Cooper *in litt.* 2011). Mathews (1912) noted that its occurrence in South Australia was 'accidental', but he subsequently expunged the record altogether (Mathews 1919: 421–422, *cf.* Serventy 1939). Despite the uncertainty around the true collection location of the paratype, it is now known that South Australian waters are part of the normal range of Hutton's Shearwater (Serventy 1939, Marchant & Higgins 1990), and so the paratype may well have been collected there.

The location of the type locality near The Snares is corroborated by an unpublished letter dated 16 May 1895 from Dannefaerd to Rothschild (Miskelly *et al.* 2001). In this letter, Dannefaerd emphasised that The Snares location was correct because, he added, 'Puffinus Gavia is considered very rare her[e]', as an annotation at the end of the inventory of specimens shipped, which included '2 Puffinus Gavia Snares Isl'. This was before Hutton's Shearwater had been described and so specimens of this species would have been considered to be Fluttering Shearwaters. In fact, one was a Fluttering Shearwater (AMNH 527760) and the other a Hutton's Shearwater (AMNH 527761). Although Hutton's Shearwater has not been reported as far south as The Snares recently, the population was probably much greater in number and distribution in the past (Tennyson 2010), therefore it probably had a broader marine range in the 19th century.

Although Dannefaerd supplied the holotype of Hutton's Shearwater to Rothschild, we now possess conclusive evidence that Dannefaerd was not the collector, despite Greenway (1973) stating that it was 'collected by Dannefaerd in March, 1894'. By searching the Papers Past website ([www.paperspast.natlib.govt.nz](http://www.paperspast.natlib.govt.nz); digitised New Zealand newspapers and periodicals) and other sources (e.g. Cumpston 1968), we have found no evidence that Dannefaerd ever travelled to New Zealand's subantarctic islands (*contra* Murphy 1952) or, in fact, that any vessels visited those islands in March 1894. Further evidence supporting this conclusion is an unpublished letter from Henry Travers to Ernst Hartert, Rothschild's curator, dated 14 May 1895: 'Mr Dannefaerd ... never collected the Miro [= Snares Island Tomtit *Petroica macrocephala dannefaerdi* (Rothschild, 1894)] from the Snares recently named after him, as he never was there...' (BMNH archives; *cf.* Miskelly 2012). The sources of most New Zealand subantarctic bird specimens in the late 19th century were collectors aboard Government steamers—in 1894 the first Government steamer visit to the subantarctic was between 25 April and 24 May (*Southland Times* 26 April 1894, *Otago Witness* 24 May 1894). We therefore conclude that the 'March 1894' date associated with the holotype by Greenway is not its collection date, rather Dannefaerd bought the holotype from another collector and then labelled it himself (Fig. 2), sometime before May 1895, when he sent it to Rothschild. In fact, Greenway appears to have simply made an error in giving March 1894 as the collection date, as apparently he is the first person to have associated this date with the specimen.

While we conclude that Dannefaerd could not have collected the holotype of Hutton's Shearwater, we have found further evidence that Henry Travers might have been the collector. Godman (1907–08) and Waite (1909, apparently following Godman) stated that a shearwater, probably the holotype of Hutton's Shearwater (*cf.* Miskelly *et al.* 2001), was collected by Travers. Travers personally collected on New Zealand's subantarctic islands twice: during 8–20 January 1890 (*Otago Daily Times* 21 January 1890, Chapman 1891, Cumpston 1968: 147) and from 25 April to 24 May 1894 (*Southland Times* 26 April 1894, *Otago Witness* 24 May 1894). This is contrary to the previous conclusion by Miskelly *et al.* (2001) that Travers only collected in this region in 1894 (Miskelly *et al.* 2001, based on R. A. Falla *in* Warham & Bell 1979). We still have not been able to trace the source of the holotype's collection date of January 1890 given by Clark & Fleming (1948) and subsequently used by Oliver (1955; Te Papa archives MU000233/016/0004), but it may well be correct as it ties in with Travers' activities. Perhaps Clark & Fleming (1948) deduced the date using similar evidence to ours. In 1890 Travers was at The Snares only on 9 January, where he was actively collecting birds at sea (Chapman 1891). In contrast, the likelihood of Travers collecting a Hutton's Shearwater on his 1894 trip seems slim. After leaving Bluff on 25 April 1894, Travers must have visited The Snares in late April because he collected specimens of the Snares Island Tomtit (LeCroy 2008: 250) and Snares Island Fernbird *Bowdleria punctata caudata* (Buller, 1894), now at AMNH, in April 1894 (J. A. Bartle pers. comm. 1998)—not in May 1894 (Warham 1967)—before reaching the Auckland Islands by 1 May (*Poverty Bay Herald* 28 May 1894). Hutton's Shearwaters are rare in New Zealand waters in late April as most birds leave New Zealand prior to this, following the end of the breeding season (Harrow 1976, Marchant & Higgins 1990). Additionally, the plumage of the holotype shows no sign of active moult and little sign of wear. By April, the plumage of Hutton's Shearwaters should be worn, with post-breeding moult having begun, but in January their plumage should appear newer (Marchant & Higgins 1990). While we cannot rule out the possibility that an unknown sailor or passenger collected the holotype, we have no evidence to support such a theory. The specimen bears, in addition to Dannefaerd's label, Mathews and Rothschild type labels, but the original Rothschild label of the holotype is missing and was presumably removed by Mathews, as was his custom. This label would have been seen by Godman but it probably only would have borne the annotation 'Dannefaerd Coll.', as did most other specimens from the latter's collection. Hartert was probably the source of Godman's statement that Travers was the collector, as he knew by that time that Dannefaerd had never visited The Snares.

Unfortunately, doubt concerning the accuracy of the holotype's collection data is compounded because other information relating to Travers' and Dannefaerd's collections has proven unreliable (Boessenkool *et al.* 2010, Miskelly 2012) and Gregory Mathews was careless with data 'to the point of serious professional incompetence' (Rasmussen & Prŷs-Jones 2003). Nevertheless, we tentatively conclude that the holotype was shot at sea near The Snares by Henry Travers on 9 January 1890 and was subsequently sold to Dannefaerd. It appears that other birds collected by Travers at The Snares in 1890 were sold to Dannefaerd, e.g. three Snares Island Snipe *Coenocorypha huegeli* (Tristram, 1893), now AMNH 740429–431.

It is notable that several other important historic bird specimens from New Zealand subantarctic islands are reported as being collected in March 1894 and / or by Dannefaerd. These include the type specimens of *Miro dannefaerdi* (*cf.* Rothschild 1894), *Procellaria aequinoctialis steadi* Mathews, 1912, and *Heteroprion desolatus alter* Mathews, 1912 (*cf.* Greenway 1973). We conclude that the collection information for these specimens must also be incorrect. Further research (e.g. determining the skinning techniques used by

Dannefaerd and Travers, or sexing using DNA) may yet resolve some of the uncertainty as to the collection details of these historically important specimens and the holotype of Hutton's Shearwater.

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