

Notornis, 2008, Vol. 55: 106-108
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SHORT NOTE

Kermadec petrels (*Pterodroma neglecta*) off the Azores, North Atlantic Ocean

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Until the late 20th century, the Kermadec petrel (*Pterodroma neglecta*) was considered to be restricted as a breeding species to islands between 21°S and 34°S in the South Pacific Ocean, from the Juan Fernandez Is west to Lord Howe Is (Marchant & Higgins 1990). It was 1st reported in the Indian Ocean at Round I, off the northern coast of Mauritius in 1986; its presence there was confirmed in 1994 (Brooke *et al.* 2000), and breeding was proven shortly thereafter (Brooke 2004). Since 2003 a single Kermadec petrel has also been observed at a nest site on Cousin I, Seychelles (Eikenaar & Skerrett 2006; C. Eikenaar, *pers. comm.*). These small populations and that of the Trindade petrel (*P. arminjoniana*) are possibly relicts of undoubtedly larger and more widespread former colonies in the

Indian Ocean.

Well before these findings in the Indian Ocean, there had been 2 reports of Kermadec petrels in North America and England, on opposite sides of the North Atlantic, although neither is presently accepted by the respective checklist committees (British Ornithologists' Union 1998; Banks *et al.* 2003). On 1 Apr 1908, a dark phase Kermadec petrel was found freshly dead in Cheshire, England, and it was preserved as a mounted skin (Newstead & Coward 1908; Watola 2004). This skin is now in the Grosvenor Museum, Chester, and its identity has been confirmed (Bourne 2005). On 3 Oct 1959, a dark phase Kermadec petrel was filmed in eastern Pennsylvania, USA after a hurricane, and identified by R.C. Murphy (Heintzelman 1961). Later, Murphy confirmed his decision, and G.E. Watson agreed with the identification (D. Heintzelman, *pers. comm.*).

Received 12 Jan 2007; accepted 31 May 2007

A study of the gadfly petrels, referred to as *P. arminjoniana*, breeding on Trindade Island in the South Atlantic (Silva 1995) alerted me to a possible explanation for the 2 records of *P. neglecta* from north of the Equator in the Atlantic (Imber 2004). The vocalizations described for these petrels (da Silva 1995) are identifiable as predominantly the 2 calls of Trindade petrels, but a 3rd call (“chamado”) is that of the Kermadec petrel. These 2 diurnal species have, for gadfly petrels (which are mostly nocturnal), few calls, and these differ greatly (pers. obs.). That da Silva (1995) listed the “chamado” call 3rd is consistent with other indications that the Kermadec petrel is the rarer of the 2 at Trindade Is. For example, I found no Kermadec petrel skins among 45 Trindade petrel skins examined in the Natural History Museum (Tring), the Museo Regionale di Scienze Naturali (Torino), and the Museum of New Zealand Te Papa Tongarewa (Wellington) in 2003.

A breeding population of Kermadec petrels on Trindade Is is consistent with its distribution elsewhere. The island is only 45' further south than Round I, and the southern tip of Africa at 35°S, is north of the 44°S southern limit of the Kermadec petrel's range elsewhere (Imber 2005). This suggests there should be no barrier to its passage between the Atlantic and Indian oceans.

A colony on Trindade I would also explain a parasitological anomaly: the only phthirapteran louse of the genus *Halipeurus* reported from gadfly petrels collected on Trindade Is is the same species found on Kermadec petrels in the Pacific, and not the *Halipeurus* species known from Trindade petrels on Round I and Herald petrels (*P. heraldica*) in the Pacific (R.L. Palma, pers. comm.). The presence of Kermadec petrels in the South Atlantic would also resolve why a spirit specimen of a gadfly petrel that I borrowed from the Smithsonian Institution, Washington DC, in 1982, collected at Trindade Is in 1975 and labeled *P. arminjoniana*, had intestines identical to those of *P. neglecta* (Imber 1985), and the whitish primary shafts characteristic of that species. Being the 1st example I had seen that was purportedly of Trindade petrel, I was reluctant at the time to doubt the label.

Non-breeding Kermadec petrels in the Pacific migrate as far north as 30°-40°N (Marchant & Higgins 1990). Thus a population in the Atlantic could be expected to do likewise. On 17 May 2006, Pinguinhas (2006) saw and photographed a pale phase gadfly petrel off Faial, Azores (38°45'N, 29°W). His report and excellent photographs were posted on the Birding Azores website, to which B. Zonfrillo drew my attention. The bird had been identified as a “Trindade” petrel (the correct spelling of this island, and hence of the petrel, is Trindade) and it was suggested to be the 2nd record of this species

for the Western Palaearctic.

From the photographs, this bird appears to be a Kermadec petrel and not a Trindade petrel: from above it shows the whitish primary shafts characteristic of the former species. Plates 2-4 in Pinguinhas (2006) illustrate an important point made by Serventy *et al.* (1971), that “In the hand the white or ivory shafts to the primaries are diagnostic but are unlikely to be observed in the field unless the bird banks steeply at close range and spreads its flight feathers”, though, in some birds (those most often illustrated in field guides), this may slightly exaggerate their obscurity. Thus in Plate 2 (Pinguinhas 2006), the flexed wing shows no shafts, whereas in Plate 3 the wing during downstroke shows 4 whitish shafts, and the outstretched wing of the gliding bird (Plate 4) shows 1 whitish shaft. The bird in the photographs also exhibits the squarish or slightly rounded tail, the white at the primary bases in the underwing (often, as here, interrupted by the dark-tipped greater primary coverts) on an otherwise dark or grey underwing, the rather uniformly dark brown upperparts (rather than the ashy brown with a hint of a transverse darker M-mark as in Trindade petrel), and the freckled forehead. Although none of these features are individually diagnostic, together they indicate a Kermadec petrel rather than the Trindade petrel.

This record prompted me to re-examine the reputed 1st record of Trindade petrel from the Western Palaearctic, that of a dark phase bird seen and photographed by J. and R. Seitre off Pico, Azores, on 18 Jul 1997 (Dubois & Seitre 1997). Not having access to original photographs, I was dependent on photocopies of the journal article. Nevertheless, it seems fairly obvious that Plate 1 in Dubois & Seitre (1997) shows a gadfly petrel with up to 9 whitish primary shafts visible in the upperwing during downstroke, as in Plate 3 of Pinguinhas (2006). The primaries appear to be still growing, which would account for the relatively short length of pale shaft of P10 visible in Plate 1. Its tail seems relatively short, although the shape of the tip is not shown. The underwing, though poorly lit and difficult to discern in my copy, seems similar to that of the Faial bird. Taking these features into account, along with the freckled forehead and the overall ‘cold brown’ general coloration (Dubois & Seitre 1997), this bird also appears to be a Kermadec petrel.

These 2 records of Kermadec petrels off the Azores are further evidence of the existence of a population of this species in the Atlantic. They also indicate the presence of both dark and pale phase birds, as found elsewhere in their range, though this was not evident before from the prevalence of dark phase birds in the few previous specimens and possible sightings (Imber 2004).

The species' presence off the Azores in 38-39°N on

the mid-Atlantic ridge suggests that the observers may have discovered an important non-breeding area of Kermadec petrels in the North Atlantic. The main prey of gadfly petrels, such as histioteuthid squids, are abundant along the ridge here (Voss 1969). The Azores may also be the source area for the Cheshire specimen. South-westerly gales associated with a deep Atlantic low pressure system could have blown the petrel into the trap of the Celtic Sea (between Ireland and Cornwall), as happened to Leach's storm petrel (*Oceanodroma leucorhoa*) in Dec 2006 (Gantlett 2006), and on into the Irish Sea, from where the exhausted bird could be swept inland into Cheshire by westerlies. Newstead & Coward (1908) described the winds before retrieval of the specimen thus: "On the 27th, it backed to the S.S.W., rising in force, and remained westerly until the 31st." It was still blowing at 34 kmh⁻¹ on the day they suspected that it had struck a tree.

The records from the North Atlantic were from Apr to early Oct and, though some appeared not to be in moult, the Azores bird was in body moult and completing wing moult in Jul 1997. A specimen was collected in breeding condition at Trindade Is on 28 Dec 1975 (Imber 2004). At least a proportion of the Kermadec petrels on Trindade I therefore breeds in the austral summer, as did the formerly huge colony on Raoul I, Kermadec Is (Marchant & Higgins 1990).

My reassessment of petrels in the Atlantic also prompted me to examine the photographs used by Dubois & Seitre (1997) from Round I, Mauritius. These were taken in 1991, several years before Kermadec petrels were known to occur there. All were identified by the authors as Herald (= Trindade) petrels. Plates 5, 6 and 8 are correctly identified as Herald petrels, showing the wedge-shaped tail, and other characteristics. However, plate 7 may be a dark phase Kermadec petrel because of its square tail, while Plate 9 is also likely a Kermadec petrel because it shows a pale primary shaft, probably P10. Together, this evidence indicates the Kermadec petrel has a much wider distribution than considered previously, which may stem in part from the difficulty of its identification and separation from other *Pterodroma* petrels.

ACKNOWLEDGEMENTS

I particularly thank Bernie Zonfrillo for drawing my attention to the 2006 Azores report of a Trindade petrel, and to Manuel Pinguinhas and Staffan Rodebrand for information about that report. I am grateful to Cas

Eikenaar for information about the Seychelles Kermadec petrel, and to Ian Saville for photocopies of articles.

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Keywords Kermadec petrel; *Pterodroma neglecta*; distribution; North Atlantic Ocean; Azores