FIRST RECORDS OF CHATHAM ISLAND PETREL *PTERODROMA AXILLARIS* IN THE EASTERN PACIFIC OCEAN

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The Chatham Island Petrel *Pterodroma axillaris* is one of the rarest seabirds in the world, with a total population of 800–1100 birds consisting of approximately 250 breeding pairs (Taylor 2000, M. Imber pers. comm., G. Taylor pers. comm.). Currently, the only known natural breeding population, rediscovered in 1973 after more than 30 years without records, is on Rangatira Island (formerly Southeast Island) in the Chatham Islands, about 430 nautical miles east of Christchurch, New Zealand (Enticott & Tipling 1997, Brooke 2004, M. Imber pers. comm.). This petrel's pelagic range during the non-breeding season is almost completely unknown. The present note documents observations of Chatham Island Petrels off the south coast of Peru during seabird surveys being conducted in the eastern Pacific Ocean.

SIGHTINGS

On 11 October 2006 at 13h40 Peru Time (UTC–5), while the ship was located at 13°10.5′S, 90°17.3′W, about 820 nautical miles west of the Paracas Peninsula, Peru, an observer using 25× binoculars detected a petrel sitting on the water with a White-bellied Storm-Petrel *Fregetta grallaria* about 800 m in front of the ship. One of the authors (MPF) studied the bird for one to two minutes using 20×60 prism-stabilized binoculars as the ship narrowed the gap. During that time, the bird showed no diagnostic features, but the bill seemed slight for the locally common De Filippi's Petrels *Pterodroma defilippiana.*

As the ship approached to within 200 m, the bird flew, revealing the diagnostic underwing pattern of the Chatham Island Petrel. Compared with De Filippi's Petrel, it appeared somewhat stocky overall, with relatively broad wings. Upper parts were grayish, with slightly darker secondary coverts, outer primaries and crown. The bird's most arresting feature was its very striking underwings: broad black leading edge, narrowing toward the carpal and outerwing and widening toward the body, ending in a large black axillary patch. The rest of the underwing was white, with a narrow black trailing edge and a black tip to the primaries. The tail was gray, like the back, and appeared somewhat broad, similar to a Black-winged Petrel *Pterodroma nigripennis.* The grey from the upperparts extended down on the sides of the breast forward of the wings forming a partial collar, similar to Black-winged Petrel. A small black patch surrounded the eye.

A high overcast obscuring the sun provided even, flat lighting. Wind speed was about 16 kn (30 km/h) at 100 degrees; sea surface temperature was 20.4°C. We obtained two distant digital images that, upon considerable enlargement, revealed the distinctive underwing pattern (Fig. 1). This sighting represents the first confirmed for this species for the eastern Pacific Ocean.

A *Cookilaria* (subgenus) petrel sighted six hours earlier at 07h00 local time at 13°51′S, 89°21′W, also fit the description of a Chatham Island Petrel. The observer (RAR) watched the bird for approximately 15 s using 25× binoculars. The bird was approximately 300 m from the ship. The underwing appeared to be mostly black through the inner parts, especially the entire axillary area, with patches of white (or dirty white, or white dappled with flecks of black) located more outward through the inner portion to about one quarter from the tip, and a very small area of white along the leading edge up against the body. Much of the rest of the underwing and edges appeared strikingly dark or blackish. The upperparts appeared similar to a darker version of a Black-winged Petrel with a paler to medium-gray cap contrasting with a darker band through the eye and the darker mantle. The mantle, including the inverted "M," was darker brownish-gray than a that of a typical Black-winged Petrel. The paler gray extending back from the cap dipped to form a similar shaded shoulder bar and partial collar.

Of interest was another probable Chatham Island Petrel seen by MPF on 25 October 1999 at approximately 14°02.4′S, 83°23.5′W (noon position), about 440 nautical miles west of the Paracas

Fig. 1. Chatham Island Petrel Pterodroma axillaris about 800 km west of southern Peru. Photo: James Cotton.

Peninsula, Peru. Clearly visible with 10× binoculars during the brief view were prominent black axillaries and a heavy black ulnar bar extending outward from the black axillary patch towards the carpal. This conspicuous feature was seen well and was strikingly different from all of the De Filippi's Petrels seen that day and unlike any Black-winged Petrel. Because MPF was the sole observer, because the species was unknown in the eastern Pacific at the time, and because no photograph was obtained, the bird was considered an unidentified *Cookilaria.* In light of the recent sightings, the 1999 sighting was almost certainly a Chatham Island Petrel.

These sightings were made aboard National Oceanic and Atmospheric Administration (NOAA) research vessels *McArthur II* and *David Starr Jordan* (68 m and 49 m respectively) while conducting ecosystem assessment cruises in the eastern tropical Pacific Ocean.

Identification of the Chatham Island Petrel should not pose any problems, given reasonable views. The underwing pattern is unlike that of any other similarly plumaged *Pterodroma* (Harrison 1985, 1987; Enticott & Tipling 1997; Shirihai & Jarrett 2002; Onley & Scofield 2007). Black median and greater under secondary coverts combined with black greater under primary coverts form a thick black ulnar bar broadest at the base of the wing and narrowing distally; the black axillaries join the ulnar bar and form a large black patch near the body. The net result is a mostly black inner underwing with a small amount of white on the leading edge and a mostly white outerwing (see Fig. 1). Black-winged Petrel, with which the Chatham Island Petrel is often compared, has a mostly white underwing, including the axillaries, and a prominent black ulnar bar of even width that does not reach the body. The black axillaries of the Chatham Island Petrel are diagnostic of this species (Harrison 1985, Gardner 1999).

DISCUSSION

As with most Procellariiformes, the life cycle of the Chatham Island Petrel away from its breeding island is the least understood aspect of its biology. Its non-breeding distribution—and much of its foraging ecology—is poorly known. Before the sightings documented here, this species was believed to be restricted to the southwestern Pacific Ocean in the immediate vicinity of its nesting island. There have been a number of recent sightings of Chatham Island Petrels on commercial bird tours and private charters undertaken specifically to search for Chatham Island Petrel (and for Magenta Petrel *Pterodroma magentae,* another critically endangered Chatham Island endemic). Two or three Chatham Island Petrels were seen in early January 2007 between the Chatham Islands and Bounty Islands during a voyage with Pterodroma Pelagics, and two birds, in mid-February 2007 about 150 km east of the group. The largest number recorded at sea was 11 birds on 1 January 2000, again between the Chathams and the Bounties during a Heritage Expeditions tour (H. Shirihai pers. comm.). Previously, one other at-sea sighting had been recorded, 120 km south of Rangatira Island (Taylor 2000).

In an effort to manage one of New Zealand's most threatened seabirds, the New Zealand Department of Conservation (DOC) has maintained Rangatira Island as a reserve since 1964; intensive management and monitoring by the DOC began in 1989 (Taylor 2000). Based on sub-fossil bones found at past colony sites, the Chatham Island Petrel formerly bred on other islands in the Chatham group, but it succumbed to human impacts: feral cats, pigs and other livestock, and introduced mammals. Currently, no introduced mammals are present on the island (Gardner 1999, Taylor 2000, Birdlife International 2008). At one time, the population of this species was believed to have been as low as 50 birds, but estimates based on intensive banding of more than 400 individuals yielded a higher estimate of 800–1000 (Taylor 2000, Sullivan & Wilson 2001). The apparent increase before the 1990s likely reflects an improvement in census techniques rather than a real increase (Birdlife International 2008). Sparse burrow distribution, low productivity and, most significantly, competition for burrows with another native species, the Broad-billed Prion *Pachyptila vittata,* indicate a population in decline (Gardner 1999, Sullivan & Wilson 2001). Occupied burrows and surface birds declined or disappeared from commonly used areas in the 1930s, a trend that apparently continued into the 1980s (Taylor 2000). Fortunately, the population is responding to active management that began in 1997; the total population is now currently estimated to be 1000–1100 birds (Birdlife International 2008). The use of neoprene burrow flaps and culls of prions found in petrel burrows has greatly improved breeding success from 10%–30% in the early 1990s to 70%–80% in the past 10 years (Sullivan & Wilson 2001, Birdlife International 2008, Birdlife International 2006). The species is currently being considered for downlisting from Critically Endangered to Endangered under the International Union for Conservation of Nature criteria (Birdlife International 2009). The DOC considers the Chatham Island Petrel a Category A species, the highest priority threat ranking (Taylor 2000).

Considering the pelagic distribution during the non-breeding season of many southwest Pacific seabirds, species such as Westland *Procellaria westlandica* and Parkinson's *P. parkinsoni* petrels, Buller's *Thalassarche bulleri* and Salvin's *T. salvini* albatrosses, and Cook's *Pterodroma cookii* and Black-winged petrels, the discovery of Chatham Island Petrels off western South America is not surprising. Researchers have for years suggested that Chatham Island Petrels follow a route analogous to many of their congeners and migrate to the eastern Pacific Ocean (Enticott & Tipling 1997, Gardner 1999, Taylor 2000). Confirming this hypothesis has been difficult, given a small population spread out over a vast, rarely surveyed oceanic region. The Chatham Island Petrel sightings documented here occurred in areas in which De Filippi's Petrels are fairly common, indicating that perhaps Chatham Island Petrels have simply been overlooked in the past. However, previous ecosystem assessment cruises conducted in this area since 1986 by the US NOAA Fisheries Service failed to find any sightings other than the 1999 one. Westland Petrels have proved to be regular off southern South America during the past 20 years (Brinkley *et al.* 2000). Furthermore, sightings of probable Magenta Petrels off Chile lend additional support to the trans-Pacific hypothesis, suggesting that Chatham Island Petrels could occur anywhere off Peru and Chile (Howell *et al.* 1996, S. Howell pers. comm.). These apparent "distributional shifts" are likely a reflection of increased observer effort and awareness rather than true range extensions.

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