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Fifty One Degrees and 14 Years of Separation: a Trans-Atlantic Recapture of a Banded Leach's Storm-Petrel

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ABSTRACT.—A Leach's Storm-Petrel (*Oceanodroma leucorhoa*) initially banded on Tenerife, Canary Islands, Spain in October 1995 was recaptured on Bon Portage Island off the south tip of Nova Scotia, Canada in August 2009, 13 years and 10 months later, and some 4,660 km and 51° longitude away. Recoveries on breeding areas of seabirds that were originally banded on wintering areas are exceedingly rare. This record appears to constitute the first winter-summer recapture of a Leach's Storm-Petrel.

Key words: Nova Scotia, Procellariiformes, seabird, Spain, Tenerife, winter-summer recapture.

Most banding efforts of seabirds in North America occur on breeding areas. Of seabirds that are banded, the vast majority are recaptured <100 m from their original banding location, whereas far <1% of banded birds are recaptured at locations more than a few kilometers away (Gaston et al. 2008; also see Brewer et al. 2000, Rimmer and McFarland 2001). Thus, progress in understanding long distance movements have been very slow for many seabird species. Although use of modern data loggers has improved our knowledge about movements for some species (e.g., Stutchbury et al. 2009), relatively little information exists on movements of species that weigh <50 g, primarily because data loggers have been too heavy. Although developments in reducing weight and increasing battery life continue, data loggers still are not suitable for all birds (Bridge et al. 2011). Hence, the combination of unequally distributed seasonal banding effort and technological constraints have yielded limited information about movements of

small migratory birds initially marked on their wintering grounds (but see Dowell and Robbins 1998, Woolfenden et al. 2001, Ewert et al. 2012). Of over 67,000 Leach's Storm-Petrels (*Oceanodroma leucorhoa*) banded in Canada between 1955 and 1995, fewer than 10 (<0.02%) were ever found outside of Canada (Gaston et al. 2008). In this paper, we describe a winter-summer recapture of a Leach's Storm-Petrel.

METHODS

Bon Portage Island (Outer Island on some maps), Nova Scotia, Canada (43°27'N, 65°44'W) supports an estimated 50,000 pairs of breeding Leach's Storm-Petrels (MacKinnon 1988, Oxley 1999, DS, unpubl. data). This population has been researched intermittently since the late 1980s (MacKinnon 1988, Oxley 1999, Paterson and Snyder 1999); intensive study of up to 500 nest burrows has been conducted annually since 2005 (O'Dwyer et al. 2008, Mills 2011). As part of a larger research program on reproductive ecology of Leach's Storm-Petrels on Bon Portage Island, we attempt to have all adults in monitored burrows banded.

RESULTS

HLL and EJLV retrieved an adult Leach's Storm-Petrel from a burrow on 14 August 2009. The bird bore the Spanish band T.000902. The band was in good condition. On that date, it had the following measurements: 16.6 mm culmen, 159 mm wing chord, 80 mm tail length, and 44.4 g mass. A small blood sample was taken for sexing; molecular testing determined it was a female. An egg was present in the burrow and hatched several days later. This petrel has not subsequently been recaptured or observed on the island. The marked burrow in which it was found in was not used in 2010, 2012, or 2013; it was active in 2011, but only one adult was captured and this was not T.000902. In September 2009, band details were provided to the Canadian Wildlife Service (CWS) Banding

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FIG. 1. Leach's Storm-Petrel recovered onshore on Tenerife, Spain in October 1995. The bird was recaptured 4,660 km away in Nova Scotia nearly 14 years later.

Office. In November 2011 we received correspondence from Spain (via CWS) indicating that this petrel had originally been banded on 13 October 1995 off the African coast, on Tenerife, Canary Islands, Spain ($28^{\circ}33'N$, $16^{\circ}20'W$), a straight-line distance of 4,660 km (covering 51° longitude) between banding and recapture locations.

Further correspondence (K.W. Emmerson, pers. comm.) yielded additional information on this bird's history. After a storm in October 1995, a single incapacitated Leach's Storm-Petrel was found on the shore near Garachico, Tenerife, Canary Islands, Spain (Martin and Lorenzo 2001)

and transported to the Tenerife Cabildo Centro de Recuperación de Fauna Silvestre (CRFS). It was banded (T.000902) and photographed (Fig. 1) immediately before release a few days later, near Bajamar, an area close to a small breeding colony of European Storm-Petrels (*Hydrobates pelagicus*) and Band-rumped Storm-Petrels (*Oceanodroma castro*). The closest populations of breeding Leach's Storm-Petrels are several hundred kilometers north in the United Kingdom (BirdLife International 2012). The blue-gray tone of the plumage in the photographs suggested it was a hatch year bird (Miles 2010). The next known

encounter of T.000902 was our recapture on Bon Portage Island, 13 years, 10 months later.

DISCUSSION

Aside from the unlikelihood of a single bird banded on a wintering area being recaptured at a putative natal site, additional factors make this recapture even less likely. First, as is the case for most migratory birds, mortality of young Leach's Storm-Petrels is disproportionately high early in life. For example, a 40-year study on Kent Island, New Brunswick encountered only ~1% of Leach's Storm-Petrels banded as nestlings (Huntington et al. 1996), although to what extent natal dispersal (*sensu* Greenwood and Harvey 1982) accounted for this low encounter rate is unknown. Several weeks after parents leave the colony, fledgling Leach' Storm-Petrels depart natal sites in September–October to initiate fall migration to their wintering areas. Atlantic populations are assumed to migrate to coastal Europe, down the west coast of Africa, then westward to the east coast of South America, before turning north and returning to breeding areas (Huntington et al. 1996). Young birds spend 4–5 years at sea before eventually breeding (Huntington et al. 1996). T.000902 likely hatched on or near Bon Portage Island, and was blown onshore in Tenerife during its fall migration in 1995. Although we are not completely sure the bird was in its first year, it is generally known that young birds are often more vulnerable to environmental vagaries during migration (Newton 2006), and the photographic record is consistent with this interpretation of T.000902's history. Accepting that this bird was in a weakened state and that it was probably young, its survival probability and thus the likelihood of recapture was already diminished. Recaptures of juvenile seabirds are usually infrequent (Sanders et al. 2010). The fact that this was the only Leach's Storm-Petrel found and banded on Tenerife that year and found again on Bon Portage Island is exceptional. This species is rarely found onshore anywhere in Europe (BirdLife International 2012). Occasional exceptions are 'storm-wrecked' individuals when relatively large numbers may be observed. For example after the 'great storm' in the United Kingdom in 1987, MBL saw several in the county of Surrey, and other reports have appeared in the literature (e.g., Flood 2009). Although information about long distance movements by birds is rapidly becoming the domain of modern data loggers,

there will still be instances of valuable data that can be obtained from banding operations, particularly for small species.

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