## Oceanodroma leucorhoa

## non-breeding visitor, regular winterer

O.l. leucorhoa

Leach's Storm-Petrels breed in the N Atlantic and Pacific (as far S as Baja California in the e. Pacific) and migrate to temperate and tropical waters in winter to 30° S (Dement'ev and Gladkov 1951a, Cramp and Simmons 1977, Harrison 1983, Pitman 1986, AOU 1998, Spear and Ainley 2007, Howell 2012). They have been recorded stranded on or near many tropical Pacific islands (Pratt et al. 1987), including Wake Atoll (Rauzon et al. 2008), and they are found fairly commonly in Hawaiian waters, with most records for Oct-Apr (Pyle et al. 2016). The AOU (2016) split two former subspecies of Leach's Storm-Petrel, breeding on Guadalupe I, Mexico, into separate species (see below) but at least most records, including all specimens, appear to apply to Leach's Storm-Petrel, and we assume the following represents the status of this species in and around the Hawaiian Islands.

At sea, Crossin (1974) indicates moderate winter densities and sparse summer densities in the Hawaiian Island region based on observations and specimens collected by the POBSP in the 1960s. HICEAS observers in 2002 recorded no birds throughout Hawaiian waters 6 Aug-17 Sep but 125 during 18 Sep-28 Nov (Rowlett 2002; HICEAS data). Birds were observed consistently from W of Kure to S of Hawai'i I, numbers generally increased throughout the latter period, and daily high counts were of 17 on 9 Nov S of Gardener Pinnacles and 16 on 28 Nov NW of Maui; similar patterns were observed during the 2010 HICEAS survey. King (1970) recorded them commonly during monthly surveys S and E of the Southeastern Hawaiian Islands Mar1964-Jun 1965. Substantial peaks in April of both years suggest a northbound migration through Hawaiian waters at this time. Only 14 of 1,050 observations (1.3%) were recorded in Jun-Aug, possibly Ainley's Storm-Petrels (see below). Spear et al. (1999) recorded 35 individuals SE and S of Hawai'i I in spring and fall 1984-1991 and also found them to be significantly more common in spring than in fall. Scattered other at-sea observations exist between November and February (e.g., Gould 1983, Pyle and Eilerts 1986, Bailey 1996).

In the *Northwestern Hawaiian Islands*, at least 23 Leach's Storm-Petrels have been found dead, stranded, or observed during single-day offshore boat trips, from *Kure*, *Midway*, *Laysan*, and *French Frigate*, primarily in Nov-Mar (e.g., <u>HRBP</u> 6241). On Kure, a storm-petrel that was likely a Leach's observed 19 Nov 1977 was captured by <u>Great Frigatebirds</u> over land, from which it may have escaped (Rauzon 1978). P. Bartsch collected 4 Leach's Storm-Petrels near Midway 5-11 Nov 1907 (Mearns 1909), and at least 12 dead birds have subsequently been preserved from the Northwestern Islands as specimens at USNM and BPBM (e.g., Clapp and Woodward 1968, *E* 45:4). One observed 9 km S of Sand I., Midway 3 Jun 1998 is one of few Jun records for the Hawaiian Islands, possibly an Ainley's Storm-Petrel (see below).

Similar records for >150 dead, stranded, and single-day offshore observations exist from the *Southeastern Hawaiian Islands*, from *Ni'ihau*, *Kaua'i*, *O'ahu*, *Molokai*, *Maui*, and *Hawai'i I*, within the period 22 Sep-23 May (e.g., <u>CRC data</u>, <u>SOS data</u>; see many photos at <u>HRBP</u> page, including those published *NAB* 59:170 and in Pyle et al. 2016; >15 specimens at BPBM). The first record for Moloka'i was of one found dead in Kaunakakai Harbor 5 Apr 2011 (BPBM 185578). Off Kona, Hawai'i I, <u>CRC</u> recorded single-day high counts of 40+ on 28 Apr 2008 and 22 on 20 Apr 2009, coinciding with *at-sea* observations suggesting peak northward migration in late Apr; one was found dead 16 Apr 2015 (<u>HRBP</u> 6252, BPBM 186226). Many have been turned into <u>SOS</u> and SLP rehabilitation facilities on O'ahu and Kaua'i. Some of these were photographed (e.g.,

HRBP 5026-5027) and released (*E* 40:13) whereas at least 30 have died or were found dead, and were preserved as specimens at BPBM, BYUH, and USNM (e.g., *E* 25:79, *E* 27:83; HRBP 5028). The predated remains of a storm-petrel found atop *Kaho'olawe* on 15 May 1998 were initially thought to be of Band-rumped Storm-Petrel but were later confirmed to be of a Leach's.

Through 2015, four subspecies of Leach's Storm-Petrels had been recognized (Ainley 1980, Pyle 2008, Howell et al. 2009), with the nominate subspecies *leucorhoa* breeding throughout the species range except for islands off Baja California. All specimens collected in the Hawaiian Islands have shown characters (size, uppertailcovert pattern) consistent with the nominate subspecies of Leach's Storm-Petrel (Clapp and Woodward 1968, Crossin 1974, PP examination at BPBM, USNM, BYUH), and most birds observed and photographed also appear to be this subspecies (Pyle et al. 2016). A specimen collected near Midway on 11 Nov 1907 (USNM 211228) was identified by H. C. Oberholser as "O. l. beali", which breeds in n. California, but we consider beali to be a synonym of nominate leucorhoa (cf. Pyle 2008). The taxon, chapmani, which breeds on offshore islands of Baja California, is smaller than nominate Leach's and mostly dark in plumage, and continues to be considered a subspecies of Leach's Storm-Petrel. A small all-dark storm-petrel observed 114 km SE of Laysan 9 Oct 2010 (HICEAS data) may have been a *chapmani* Leach's Storm-Petrel or perhaps more likely given the location, a Swinhoe's Storm-Petrel (O. monorhis) of the e. Pacific; otherwise, there are no records for dark Leach's Strom-Petrel in the Hawaiian Islands.

The AOU (2016) split the other two subspecies, which breed at different seasons on Guadalupe Island well off Baja California, into separate species based primarily on vocalizations: summer-breeding Townsend's Storm-Petrel (O. soccoroensis) and winterbreeding Ainley's Storm-Petrel (O. cheimomnestes). Townsend's Storm-Petrel is smaller than Leach's and may average a more distinct white uppertail-covert patch, although some individuals have darker uppertail coverts (Ainley 1980, Howell et al. 2009, Howell 2012). Two birds photographed off Kona, Hawai'i I, 22 Oct 2009 (HRBP 5771-5772; Pyle et al. 2016) and 24 Nov 2014 (HRBP 6248-6251) showed characters suggesting Townsend's Storm-Petrel, although they may have been juvenile Leach's Storm-Petrels (Pyle et al. 2016). Thus, although it might be expected, we don't consider Townsend's to have been substantiated in the Hawaiian Islands. Ainley's Storm-Petrel is similar in morphology and plumage to Leach's Storm-Petrel and is thus far not considered separable in the field. As Ainley's Storm-Petrels breed in winter they presumably molt at the opposite time of year (Pyle 2008, Howell et al. 2009, Howell 2012) but this is probably not a reliable means to confirm identification between these two species (Pyle et al. 2016). A first-cycle storm-petrel photographed off Kona, Hawai'i, 8 May 2012 (HRBP 6243-6246) was molting flight-feathers at a time of year suggesting an Ainley's Storm-Petrel, but we don't consider this enough to confirm this species for the Hawaiian Islands. It is quite possible, however, that birds found in late May-early Sep (see above) could be Ainley's Storm-Petrels.

Acronyms and Abbreviations

## Literature cited

Citation: Pyle, R.L., and P. Pyle. 2017. The Birds of the Hawaiian Islands: Occurrence, History, Distribution, and Status. B.P. Bishop Museum, Honolulu, HI, U.S.A. Version 2 (1 January 2017) http://hbs.bishopmuseum.org/birds/rlp-monograph/