

## NOTES

### NORTHERNMOST RECORD OF THE WEDGE-RUMPED STORM-PETREL (*OCEANODROMA TETHYS*)

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On the morning of 1 May 2016, while monitoring Western Snowy Plover (*Charadrius nivosus nivosus*) breeding activity on the south spit of Humboldt Bay (40.741° N, 124.245° W), I found a storm-petrel carcass on the high waveslope. At Humboldt State University, Tamar Danufsky and I later identified it as a Wedge-rumped Storm-Petrel (*Oceanodroma tethys*), a neotropical species typically found offshore from Baja California Sur to northern Chile. Housed at Humboldt State University (HSU 9649), this specimen, the second for California, represents the 13th record for California accepted by the California Bird Records Committee (Tietz and McCaskie 2017) and the northernmost record of the species.

Measurements taken during preparation included wing chord 123 mm, wingspan 367 mm, tail 59 mm, culmen 10.7 mm, tarsus 23.5 mm, mass 14.6 grams, left ovary 3.8 × 3.1, with ova granular and translucent; these measurements support this identification (see Murphy 1936, Pyle 2008, Howell 2012). The bird was severely emaciated, with the keel clearly visible externally, and had no fat. It was undergoing flight-feather molt: primaries 1–5 were new, 6–7 were growing or dropped, and 8–10 were still retained from a previous molt. Secondaries 1 and 13 were new, 2, 5, 11–12, and 14 were growing or dropped, and 3–4 and 6–10 were retained. The central rectrices (pair 1) were new, 2–3 were growing or dropped, and 4–6 were retained (except for the left r6, which had been dropped). The retained feathers, narrower and browner than the replaced feathers, appeared to be juvenal, identifying this specimen as a second-year bird undergoing its second prebasic molt.

Three other white-rumped storm-petrels are known in California waters: Wilson's Storm-Petrel (*Oceanites oceanicus*), Leach's Storm-Petrel (*Oceanodroma leucorhoa*), and the recently split Townsend's Storm-Petrel (*Oceanodroma socorroensis*) (see Chesser et al. 2016). The medium-sized Leach's is larger than the Wedge-rumped. Both Leach's and Townsend's have a distinct, pale brown diagonal wing bar running across the secondary coverts; in the Wedge-rumped this bar is indistinct or lacking. In Leach's and Townsend's the amount of white on the rump is much more restricted, whereas on a Wedge-rumped the white covers over half the total length of the tail (see Pyle 2008; Figure 1). The legs of the Humboldt County bird do not extend past the tail, and the webbing between the toes is black, not yellow as in Wilson's.

Two subspecies of the Wedge-rumped Storm-Petrel are recognized: *O. t. tethys* and *O. t. kelsalli* (Dickinson and Remsen 2013). Nominate *tethys* breeds on the Galápagos Islands and ranges north to Mexico over pelagic waters, whereas *kelsalli* breeds in Peru and ranges from Mexico in the north to Chile in the south over continental shelf waters (Spear and Ainley 2007). The Humboldt bird's measurements identify it as subspecies *kelsalli* (Murphy 1936). The only other specimen known from California (California Academy of Sciences 68474)—from Carmel-by-the-Sea, Monterey County, 21 January 1969—is also an example of *kelsalli* (Yadon 1970). Two birds captured and measured on Southeast Farallon Island in spring 2015 (19 April and 20 May) have been identified as *kelsalli* as well (Pete Warzybok, Point Blue Conservation Science, in litt.). Because identification of these subspecies depends on

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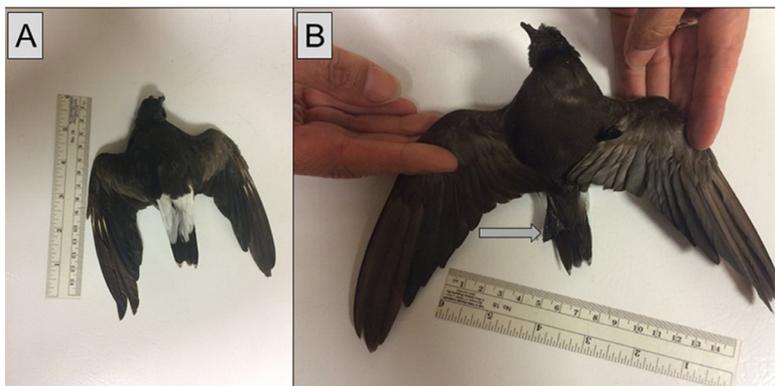


Figure 1. (A) Dorsal and (B) ventral view of the Humboldt County specimen of the Wedge-rumped Storm-Petrel. Note the black webbing between the toes (arrow), the lack of a distinct broad diagonal wing bar, and the extent of white on the rump—much greater than on Wilson’s, Leach’s, or Townsend’s (compare figure 210 in Pyle 2008).

*Photos by Deven Kammerichs-Berke*

measurements taken in hand, it is impossible to identify other Wedge-rumped Storm-Petrels recorded in California to subspecies.

Seabirds are prone to wander outside their typical distributions, in part because of the lack of physical barriers on the open ocean and because storms can easily displace pelagic birds great distances. That said, this record fits a recent trend of neotropical marine species occurring in California waters more frequently than in the past. Four of California’s 13 Wedge-rumped Storm-Petrels were recorded in 2015, a remarkably warm year characterized by an El Niño of near-record strength that resulted in record high ocean temperatures, particularly in large parts of the equatorial and northeastern Pacific Ocean. Ocean temperatures have been increasing rapidly since the turn of the century: all but one of the 16 warmest years on record (1880–2015) have occurred since 2000 (NOAA 2016). Oceanic warming has been associated with drastic changes in marine ecosystem dynamics at various trophic levels (Roemmich and McGowan 1995, Field et al. 2006), and changes in the distributions and breeding ranges of marine birds might well be one such consequence of ocean warming (Crick 2004). For example, the Brown Booby (*Sula leucogaster*) was considered a rarity in southern California and northern Baja California through most of the 20<sup>th</sup> century, but the 1980s saw a significant increase in sightings off California, with annual occurrences since 1990. Since 2005 boobies have also bred on Los Coronados Islands off northernmost Baja California, a considerable northward expansion of the breeding range (Whitworth et al. 2007). While difficult to monitor effectively, the increasing occurrence of neotropical seabirds in California waters might suggest a much wider trend to northward range expansions as a consequence of ocean warming related to global climate change.

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