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DOCUMENTING REPEATED OCCURRENCES OF INDIVIDUAL BIRDS WITH DIGITAL IMAGES

PETER PYLE, The Institute for Bird Populations, P. O. Box 1346, Point Reyes Station, California 94956

BRIAN SULLIVAN, Cornell Lab of Ornithology, 159 Sapsucker Woods Rd., Ithaca, New York 14850

The currency of bird records committees has been “records,” but the definition of a record is not as simple as it may seem. Does a flock of 17 Hudsonian Godwits (*Limosa haemastica*) in Oregon constitute 1 or 17 records? What about a Thick-billed Kingbird (*Tyrannus crassirostris*) that returns winter after winter but is gone each spring, or a Neotropic Cormorant (*Phalacrocorax brasilianus*) that occurs off and on at the same location for years but is absent for months at a time? Multiple records at different locations, furthermore, might or might not consist of repeated sightings of the same individual. It is these sorts of scenarios that have led the California Bird Records Committee (CBRC 2007) and others to focus more on individual birds than on records per se.

It is therefore useful, when possible, to determine whether the occurrence of a rare bird is simply a repeated observation of the same individual or a unique observation of a new individual. A better understanding of this issue promotes a clearer assessment of vagrancy patterns within a given geographic region, and an assessment of how many individuals are involved in a set of records is now typically part of record-committee processes. Evaluating “same-bird” issues is often easier said than done, but the advent of digital photography along with improved knowledge of molt and age/sex determination has enhanced our ability to analyze and assess individual birds. Here we consider the recognition of the same bird observed at multiple locations, at times hundreds or more kilometers apart.

Reports of the Snow Bunting (*Plectrophenax nivalis*) in California are reviewed by the California Bird Records Committee. Of 100 individuals recorded through February 2004, 97 occurred in the northern half of the state and 99 from late October through February (CBRC 2007). It was thus of some significance that two individuals appeared in southern and central California in April and May 2009, one at Ocean Beach, San Diego County, 30 April–7 May (McCaskie and Garrett 2009; CBRC record 2009-083) and one at Point Pinos, Monterey County, 23–26 May (Rottenborn et al. 2009; CBRC 2009-091). The unusual dates and locations plus the timing of the two records led us to suspect that only a single individual may have been involved, and we believe that flight-feather-wear patterns and other plumage features captured in digital images confirm this possibility.

The upper image on the outside back cover of this issue was taken by Eric Kallen at Ocean Beach on 2 May 2009, the bottom image was taken by Sullivan at Point Pinos on 26 May 2009, and enlarged cropped images of the primaries and rectrices in each photo are shown on the inside back cover. In each case, the worn flight feathers and wing coverts along with the extensive dark on the primary coverts and other feathers indicate a female Snow Bunting in its first cycle (first spring) (Pyle 1997). The Snow Bunting has no prealternate molt, so its appearance in the breeding season is the result of the whitish to rusty veiling of fresh feathers wearing off to reveal the black feather centers and a blacker overall aspect. The upperparts being darker at Point Pinos than at Ocean Beach is thus consistent with the effects of feather-edge loss during the 24-day interim. Likewise, the Snow Bunting’s bill can change quickly

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from yellowish with a black tip in winter to black in summer, explaining the difference in bill color in the two images.

The preformative molt of the Snow Bunting is partial; the juvenal wing and tail feathers are retained through the first cycle and often appear uniform in wear (rather than showing “limits” or “clines” resulting from molts). On a single individual, however, primaries of the same generation often vary in their degree of fading or bleaching as a result of variation in the feathers’ quality and their exposure to the elements as related to both the position of the feather on the wing and the bird’s individual habits. Individual feathers can also be replaced accidentally or “adventitiously” during a cycle, an occurrence that should not be confused with molt. We believe that a combination of such factors has led to diagnostic signatures of primary wear on each wing that can be used to confirm that the Ocean Beach and Point Pinos Snow Buntings represent the same individual.

In the Snow Bunting, which has nine primaries, p8 and/or p7 are the longest primaries, with p9 shorter, so the outermost visible primary in the field is often p7, and this is the case on both wings in both images, with the inner edge and tip of p8 variably visible behind p7 as well. Note that on both right wings p7 is bleached and notched at the tip near the shaft, p6 is moderately bleached with a pale shaft streak near the tip, p5 is fresher, p4 is more bleached and ragged near the tip, and p3 is fresher and cleaner. On the left wing, note that p7 and p8 are worn, the latter having a double notch at the tip, and that p6 is much fresher and has a small pale spot at the tip. Pyle’s examination of 30 specimens of first-cycle Snow Buntings at the California Academy of Sciences revealed that none of 60 wings had patterns of wear similar to those on these birds, most showing an expected gradation in bleaching from the innermost (least exposed) to the outermost (most exposed) feather (see Pyle 2008 for discussion of such wear clines). We suspect that on this bird the right p5 may have been lost accidentally and replaced during the previous fall, helping to explain its appearing fresher than both p4 and p6 on this wing.

Several other feather details indicate that the two images represent the same individual. These include the pointed tip and notch to the inner web of the left middle tertial (s8), the cleaner and more tapered right middle tertial, and the attenuated left central rectrix along with the more sinuate right central rectrix, a probable effect of wear because the left feather, lying atop the tail, is more exposed. Additionally, given the Snow Bunting’s variability in plumage, the head and body are very similar in appearance when the effects of feather wear described above are accounted for. On the basis of examination of feather details in tens of thousands of bird specimens, Pyle is convinced that all of the similarities described above cannot have resulted from chance and that these two “records” represent the same individual, despite the fact that the observations were 610 km apart. The CBRC has concurred with this opinion (G. McCaskie pers. comm.).

Digital imagery is allowing us to address “same-bird” issues such as this example more effectively, but molt and feather wear must be accounted for when such comparisons are made. We suspect that one suggestion that the two Snow Buntings were different individuals (Rottenborn et al. 2009) was based on lack of consideration of these factors. Other individual birds recently documented at different locations through the use of digital imagery include a Harlan’s Hawk (*Buteo jamaicensis harlani*) photographed in Colorado and Alaska (Schmoker and Ligouri 2010), a second-cycle Yellow-billed Loon (*Gavia adamsii*) that moved between Tomales and Bodega bays in California from November 2008 to August 2009 (CBRC unpubl. data), several examples of Crested Caracaras (*Caracara cheriway*) moving up and down California (e.g., Figure 1, Pike and Compton 2010, K. Nelson unpubl. data), and a Wandering Albatross (*Diomedea exulans*) that was observed 13 September 2008 off Oregon (Gillson 2009) and, 12 days later, 430 km SSW of Point Arena, Mendocino County,

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Figure 1. First-winter Crested Caracara (*Caracara cheriway*) at Hansen Dam, Los Angeles County, 31 January 2007 (A); near Goleta, Santa Barbara County, 2 February 2007 (B); and at Pebble Beach, Monterey County, 25 February 2007 (C). On the right wing note the broken p6 and hole in p10, which, along with many other features distinctive of individual primary tips of both wings, confirm that these images depict the same individual (Pike and Compton 2010). The extensive northward movements of this and other Crested Caracaras in California (K. Nelson pers. comm.) suggests they dispersed naturally from their breeding range farther south rather than being escapees from captivity.

Photos by Linda Leroy (A), David Levasheff (B), and Don Roberson (C)

California (outside of the 370-km limit within which the CBRC reviews records), approximately 675 km from the Oregon locality (Figure 2). We suspect that many other cases of the same bird at different locations will be documented, and we encourage bird records committees and others to consider this possibility carefully when evaluating digital images.

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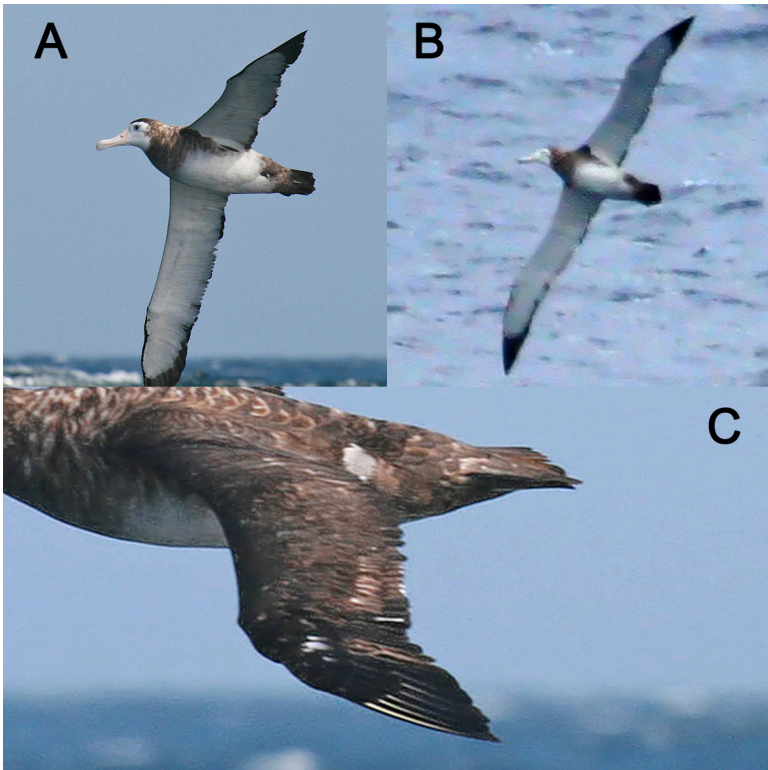


Figure 2. Wandering Albatross (*Diomedea exulans*) 65 km off Rock Point, Lincoln County, Oregon, 13 September 2008 (A, C) and 430 km SSW of Point Arena, California, 25 September 2008 (B). The similarity in head plumage and (especially) the pattern of molt of the secondaries, as indicated by the raggedness along the trailing edges of the wings, imply that these two observations involve the same individual. In the albatrosses, patterns of molt of the secondaries are complex (Pyle 2008); on this individual, it appears that s1–s6, s14, and s18–s30 (or so) of the left wing had been replaced, whereas s7–s13 and s15–s17 were retained juvenile feathers (C), suggesting that this bird was in its second or third cycle.

Photos by Greg Gillson (A, C) and Jim Cotton (B)

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Philip Unitt

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“Featured Photos” (top) by © Eric Kallen of San Diego, California: Snow Bunting (*Plectrophenax nivalis*), Ocean Beach, San Diego County, California, 2 May 2009 and (bottom) by © Brian Sullivan of Carmel Valley, California: same individual, Point Pinos, Monterey County, California, 26 May 2009.