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EGG-TURNING BEHAVIOR AND NEST ATTENTIVENESS OF THE ENDANGERED HAWAIIAN GOOSE ON KAUAI

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ABSTRACT: We used infrared video cameras to obtain the first quantitative measurements of the frequency and details of egg-turning behavior in wild Hawaiian Geese or Nene (*Branta sandvicensis*). We recorded a total of 240 hr of video, of which 53.8% was at night, over 7 days at two nests in Kilauea Point National Wildlife Refuge, Kauai, Hawaii. The mean of the two females' daytime egg-turning frequency (1.15 turns/hr) was similar to the value reported for other waterfowl and identical with that of the Canada Goose (*Branta canadensis*), from which the Nene is thought to be derived. One female turned her eggs less frequently at night, a pattern typical of waterfowl, whereas the other did not. The total number of bouts of egg turning per 24 hr averaged 25.7 for one female and 22.7 for the other. Waterfowl almost always turn their eggs by rotating them solely about the long axis, yet one of these Nene rotated one egg (occasionally two) 180° about the short axis during 21% of egg-turning bouts. We observed a combined total of 65 incubation recesses by the two females, of which 16.8% occurred at night. One of the birds took longer recesses and spent substantially more time away from the nest than the other. As on other Hawaiian islands, the Nene on Kauai tended to take recesses more frequently near dawn and dusk. The two females' nest attentiveness differed during the daytime but not when averaged over 24 hr.

A NEW AND CRYPTIC CALL TYPE OF THE RED CROSSBILL

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ABSTRACT: I describe a new call type (type 10) of the Red Crossbill (*Loxia curvirostra* complex) associated with Sitka Spruce (*Picea sitchensis*) in Humboldt County, California. As with other types of the crossbill's flight calls, the birds using this type of call apparently constitute a subset of the species that is cohesive socially, behaviorally, and morphologically. The patterns of frequency and amplitude modulation of flight calls of type 10 are similar to those of the second half of type 4 but change in frequency more slowly and are given at a higher pitch. The flight calls of type 10 vary among individuals and within an individual's repertoire, perhaps to a greater extent than in other call types. Most type 10 birds gave *toop* calls distinctly different

from those of all other call types, but a few were similar to those of types 2 and 4. Likewise, the *chitter* calls of type 10 differed from those of the three call types (2, 3, and 4) found most commonly near type 10. The song repertoires of types 10 and 4 differed as well. Type 10 crossbills are intermediate in size between types 3 and 1. Large numbers of type 10 were resident in Sitka Spruce forests from 2001 to 2010, whereas the few type 4 birds recorded in spruce stands remained only briefly. Morphological and behavioral evidence indicates that type 10 is specialized for foraging on seeds in Sitka Spruce cones.

A REASSESSMENT OF HOMOLOGIES IN THE VOCAL REPERTOIRES OF PHOEBES

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ABSTRACT: During the breeding season, phoebes (*Sayornis*) sing vigorously at dawn with two or three highly stereotyped, probably innate, song types. All song types are combinations of a species-specific introductory note and a terminal phrase. Building on a classic assessment of repertoire structure by W. J. Smith, we recognize three phrase types for the genus (I, II, and III), all of which are used by Say's Phoebe (*S. saya*) but only two of which (I and II) are used by the Black (*S. nigricans*) and another two of which (II and III) are used by the Eastern (*S. phoebe*) Phoebe. A recently discovered hybrid male Black × Eastern used all three phrase types and sang like Say's Phoebe by embedding single type II and III songs in longer strings of type I songs. Thus, what appears to be the primitive sequencing of song types was potentiated through reconstitution of the complete repertoire via hybridization. For future studies, we recommend replacement of Smith's terminology with a simpler scheme recognizing three homologous song types.

NOTES

GROUND-NESTING MARBLED MURRELETS IN JUNEAU, ALASKA

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TWO ORIENTAL TURTLE -DOVES (*STREPTOPELIA ORIENTALIS*) REACH CALIFORNIA

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A LITTLE BUNTING REACHES BAJA CALIFORNIA SUR

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BOOK REVIEWS

Avian Invasions: The Ecology & Evolution of Exotic Birds, by Tim M. Blackburn, Julie L. Lockwood, and Phillip Cassey. 2009. Oxford University Press. 305 pages, numerous figures and tables. Paperback, $55.00. ISBN 978-0-19-923255-0.

Birds of the US–Mexico Borderlands: Distribution, Ecology, and Conservation, by Janet Ruth, Tim Brush, and David Krueper, editors. 2008. 165 pages, over 60 black-and-white photos, tables, maps and figures. Three color maps and figures. Paperback, $20.00. ISBN 978-0-943610-84-9. Order through http://cooper.org.

FEATURED PHOTO

BLACK-CHINNED SPARROW: NOTES ON BREEDING BEHAVIOR AND NESTING ECOLOGY IN SAN DIEGO COUNTY, CALIFORNIA

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