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REGIONAL PHENOTYPIC VARIATION IN THE SOOTY GROUSE

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Long united as a single species under the name Blue Grouse, the more coastal Sooty Grouse (*Dendragapus fuliginosus*) and the more inland Dusky Grouse (*D. obscurus*) have received substantial attention in recent years. Zwickel and Bendell (2004) addressed the biology and natural history of these birds, specifying their regional variation. Coastal males have yellow cervical apteria (unfeathered skin on the sides of the neck; see this issue's inside front cover) and a black tail with a contrasting gray terminal band, while most interior males have red cervical apteria (see this issue's back cover) and the tail band, if any, much less distinct. In addition, the song of male Sooty Grouse is much louder than that of the Dusky Grouse. Barrowclough et al. (2004) concluded from a molecular study that two species exist. Subsequently, "on the basis of genetic evidence (Barrowclough et al. 2004) and differences in voice (hooting), behavior, and plumage (Brooks 1929)" Banks et al. (2006:929) accepted reclassification of these birds as two species. Through history, the birds' classification, as followed by the American Ornithologists' Union, has oscillated from a single species (1886, 1895, 1910) to two species (1931), back to one species (1944, 1957, 1983, 1998), and back to two species (Banks et al. 2006).

Questions about the color of the apteria of the Sooty and Dusky Grouse arose during a trip to southeast Alaska in May 2006. While en route to Prince of Wales Island, Schroeder and Zwickel noted mounted specimens of male Sooty Grouse in a taxidermy store in Ketchikan. Although most literature has reported coastal birds to have yellow apteria, all specimens on display had the apteria painted red. When asked about the color, the taxidermist said he painted them red because that was the way he remembered them in the living bird. Later that day Heinel shared a photograph of a Sooty Grouse taken on nearby Gravina Island by Piston in which the apteria were clearly red (Heinel and Piston 2009: Figure 10).

To the best of our knowledge, males with red apteria have not been reported previously from any coastal population of grouse. Swarth (1921) described the Sooty Grouse of southeast Alaska as subspecies *sitkensis*, basing his description on the plumage of females and stating "adult male not appreciably different from the male of *D. o. fuliginosus*" (the subspecies of the Sooty Grouse inhabiting the mainland from southwestern Yukon south to northwestern California). Although Swarth did not describe the apteria of *sitkensis*, Gabrielson and Lincoln (1959) reported them as "deep yellow," as Brooks (1926) described the apteria of all coastal birds—hence the confusion.

Confirmation of male Sooty Grouse with red apteria led us to investigate the geographic extent of this characteristic, especially as it differs from the published literature. To address this question we considered several avenues of inquiry. First we evaluated our field notes from previous trips to many portions of the range (Zwickel and Bendell 2004). Second, we contacted biologists, photographers, and birdwatchers to obtain information on birds in specific locations. Third, in 2007 and 2008 we visited southeast Alaska and north-coastal British Columbia to observe and photograph as

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many coastal males as possible. Here we describe some of the findings to date, with the understanding that portions of this work will likely continue.

Our results indicate that red apteria in Sooty Grouse are distributed regionally—we have found no site with both phenotypes. Males with red apteria have been found in Alaska's Alexander Archipelago on Douglas, Admiralty, Mitkof, Gravina, and Revillagigedo islands, on the mainland of southeast Alaska around Bartlett Cove and Juneau, and in north-coastal British Columbia at Stewart, near Prince Rupert at the mouth of the Skeena River, and inland along the Skeena River as far as the Terrace area (see this issue's back cover). The most northerly population of Sooty Grouse with yellow apteria has been documented on Graham Island (Haida Gwaii or Queen Charlotte Islands), British Columbia. The northernmost point on the coastal mainland where males with yellow apteria have been found is near Bella Coola, British Columbia, about 275 km south-southeast of where we examined birds near Terrace.

Our survey of Sooty Grouse is not complete. We may yet find a north-coastal area where males have yellow apteria or a south-coastal area where males have red apteria. We may also determine where the two phenotypes meet, likely between Terrace and Bella Coola. Expansion of the genetic surveys to northern British Columbia and Alaska might help address this issue. This phenotypic variation highlights another instance where the southeast Alaska/coastal British Columbia area emerges as a focus for biogeographical research.

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Photo by © Michael A. Schroeder, Washington Department of Fish and Wildlife
Sooty Grouse (*Dendrogeopys fuliginosa*) male
Near Rockport, Washington, 25 May 2001
This male displays yellow spots typical of this coastal species.