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IS THE LONG-EARED OWL DIMORPHIC?

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The Long-eared Owl (*Asio otus*) is almost cosmopolitan in the North Temperate Zone. In Eurasia (see Peters 1940, Vaurie 1965), *A. o. otus* (Linnaeus, 1758) is found throughout the range of the species, except for the Canary Islands, where isolated *A. o. canariensis* Madarász, 1901, occurs. In North America two wide-ranging subspecies have been named, distinguished by size and color. "Eastern" *A. o. wilsonianus* (Lesson, 1830; type locality Pennsylvania) is reportedly larger and darker; "western" *A. o. tuftsi* Godfrey, 1948 (type locality South Arm, Last Mountain Lake, Saskatchewan) is reportedly smaller and paler (Godfrey 1948). The latter form was recognized by the AOU (1957), Monson and Phillips (1981), Marks et al. (1994), and Pyle (1997). Browning and Cross (1999) suggested the existence of even a third, as yet unnamed subspecies (see Marshall et al. 2006). But *tuftsi* was maintained as a junior synonym of *wilsonianus* by Rea (1983) and Unitt (1984). Rea (1983:171) wrote that "males are considerably darker than females" ($n = 30$) and questioned the validity of a paler western race. Kenneth C. Parkes "compared western birds of various museum ages ... with topotypical Pennsylvania material and was unable to substantiate a western race" (loc. cit.). Parkes "doubted the validity of ... 'tuftsi' ... and suggested the supposed differences were artifacts of individual variation and museum age of specimens" (Unitt 1984:110).

Knowing this history, I studied the 51 Long-eared Owl specimens from New Mexico in the Museum of Southwestern Biology. I plotted their distribution by color and found that dark and light specimens were distributed evenly throughout the year, with dark birds being slightly more prevalent in the fledging season (June and July). With respect to sex, males outnumbered females 19:7 in the pale series, and females outnumbered males 21:6 in the dark series.

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I repeated this study with the 48 Long-eared Owl specimens from Colorado in the Denver Museum of Nature and Science (DMNS) and with the 79 specimens from California in the collection of the Museum of Vertebrate Zoology at the University of California, Berkeley (MVZ), with essentially the same results. Pale and dark birds were evenly distributed throughout the year, and sex ratios were essentially the same. For males, the ratios of pale to dark were MSB 19:7, DMNS 19:7, and MVZ 34:5; for females the ratios of pale to dark were MSB 6:21, DMNS 6:18, and MVZ 1:39. Of 184 owls examined, the overall ratios of pale to dark were 72:19 for males and 13:78 for females.

Lesson (1830) did not specify the sex of the type of *wilsonianus* in his original description; the type of *tuftsi* is a male. I point out the difference in age of the specimens in two of the institutions for the average age of 17 specimens (including the oldest examined) in MSB was 26.6 years, while in the Denver collection it was 93.9 years. MVZ specimens fell in the middle. Whether or not this age difference affected foxing of plumage color I do not know, but the ratios are so alike I do not think there was any such effect to a significant degree. In the Denver and Berkeley collections the majority of the birds were deliberately collected, whereas the majority in MSB were salvaged, and this difference also did not seem to affect the results. At the MVZ I used one specimen as a standard and compared the others to it. Doing so might have influenced ratios somewhat, but not enough to significantly alter my conclusion—that *A. o. tuftsi* is invalid, because it is explained by dimorphism, and must be maintained as a junior synonym of *wilsonianus*. Among specimens at the DMNS is a family group, a pair of adults and six downy young. The male parent is dark, the female light—opposite the prevailing frequencies of the morphs in each sex.

I studied only three western collections in pursuit of the answer to the question posed in the title, but similar studies might profitably be made in collections of the Long-eared Owl from eastern North America.

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Figure 1. Specimens of Long-eared Owls from New Mexico in the Museum of Southwestern Biology, Left to right; two males, MSB 9727 and 29910, representing the pale morph; two females, MSB 18767 and 8669, representing the dark morph.

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