

## NOTES ON COLOR PHASES OF SCREECH OWL

By AMELIA R. LASKEY

Dichromatism in the Screech Owl (*Otus asio*) is an interesting provocative subject for investigation. Early ornithologists realized that rufous and gray birds are of the same species and that the forms are not related to age, sex or season.

For 32 years (1931-1962), I have kept records of those that came to my attention, 98 individuals from middle Tennessee, mainly Nashville. There were 50 in rufous, 47 in gray (one of these was very dark with a few brownish feathers interspersed), and one in mixed rufous and gray plumage.

These records were collected in every month of the year. They included 54 birds that were banded and released, 39 casualties, most of them killed by automobiles, and 5 sight records, made in good light.

In the breeding season, March through September, there were 24 rufous birds; for the winter season, October through February, there were 26. Gray birds totaled 27 for the breeding season and 20 for the October-February season. The bird in mixed plumage was recorded in December.

More nestlings were found in gray than rufous plumage. Two broods of 3 each were all gray. One of these broods was hand-raised; all acquired gray plumage in the molt to first winter plumage. One brood of 2 had gray plumage. Another brood of 2, banded in the nest cavity with a gray adult, had one young of each color. There were two broods of 2 each in rufous plumage. One of these broods was hand-raised; the rufous color was much brighter on one than on its nestmate (4 Aug.). A bird with the gray fuzzy head of a chick had acquired new rufous body plumage on 1 Aug.

A gray individual occupied a bird house at my home for daytime roosting from mid-December, 1954 to 28 February 1955.

A. Stupka has records of plumage color for 104 of the 343 individuals that have come to his attention in 31 years (1931-1961) in Great Smoky Mountains National Park. Of these, 84 were rufous and 20 gray — a ratio of more than 4 red to one gray.

D. F. Owen has studied geographical trends in the color form of the Screech Owl. He based his conclusions on 1,778 specimens in collections of 15 museums and the published data by Schorger of highway casualties in Wisconsin and Illinois and that of Stupka (1953).

Owen summarizes his findings thus: "Throughout most of North America east of about 104° there are two forms of the Screech Owl: one with the plumage mainly bright rufous and the other with the plumage mainly gray. Birds of intermediate coloration also exist, but in most areas they are rare.

The relative frequency of rufous birds varies geographically in the form of a cline from north to south; about a quarter or less of the northern population is rufous, while in the south (Gulf coast and Florida excepted) up to three-quarters of the population may be rufous.

Screech Owls intermediate in coloration between gray and rufous comprise not more than ten percent of the population except in Florida and the adjacent Gulf coast where they comprise up to 40 percent. In Florida, Screech Owls are more variable in color and the population lacks the bimodality of other populations in eastern North America. This is probably the result of relaxed selective pressure.

The geography of polymorphism in the Screech Owl appears to be an unusual pattern of variation within an animal species."

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## BIRD MORTALITY NEAR GATLINBURG, SEPTEMBER 21-2, 1963

On the morning of 22 September, 1963, I was notified that a large number of dead birds had been found at the Ski-Lift terminal atop Mt. Harrison, 3¼ airline miles SW of Gatlinburg. Upon arrival, I found the birds to be generally distributed throughout the clearing in the vicinity of a shed containing the lift machinery. This clearing faces ENE, E, and ESE. The cables of the lift arrive from the east at the shed which is situated at the edge of the clearing. A bank of white lights had been on throughout the night. This bank is located near the edge of the clearing, about 15 feet off the ground and aligned more or less obliquely in the direction of the oncoming birds. The tree tops behind the lights (and the clearing) are at least 30 feet above the lights, which are about level with the roof of the shed. This configuration no doubt caused the confusion.

With the aid of several by-standers I gathered 144 birds, the majority of which were found on the level part of the clearing and on the south-facing slope. Others were found in the woods behind the shed. This wooded area slopes gently away from the clearing.

This collection of birds consisted of 30 species: Green Heron, 1; Black-billed Cuckoo, 1; Yellow-bellied Flycatcher, 1; Catbird, 3; Wood Thrush, 1; Swainson's Thrush, 24; Gray-cheeked Thrush, 10; Veery, 3; White-eyed Vireo, 1; Red-eyed Vireo, 4; Black and White Warbler, 2; Worm-eating Warbler, 6; Tennessee Warbler, 4; Magnolia Warbler, 4; Cape May Warbler, 1; Blackburnian Warbler, 6; Yellow-throated Warbler, 1; Chestnut-sided Warbler, 1; Prairie Warbler, 2; Ovenbird, 23; N. Waterthrush, 6; Kentucky Warbler, 8; Yellowthroat, 13; Yellow-breasted Chat, 1; Hooded Warbler, 3; Redstart, 4; Bobolink, 1; Scarlet Tanager, 6; Summer Tanager, 1; Indigo Bunting, 2. Warblers made up 59% (16 spp.) and Thrushes made up 27% (4 Spp.) of this series.

Noteworthy records for the park were: 1) Yellow-bellied Flycatcher . . . first park record; 2) Gray-cheeked Thrush . . . earliest autumn record; 3) Veery . . . equals previous latest record; 4) Worm-eating Warbler . . . latest autumn record; 5) Bobolink . . . first autumn record (Stupka, 1963, **Notes on the Birds of the Smokies**).