

THE FLAMMULATED SCREECH OWL ON MOUNT PINOS

By LOYE MILLER

So little is known of our tiniest Screech Owl (*Otus flammeolus*) that any contact with the species seems worthy of record. My latest "adventure" was on Mount Pinos, Ventura County, California, on July 24 and 25, 1936. Here, some three hours were spent on three separate occasions in "conversation" with this species, and an adult female was collected in yellow-pine forest near Chula Vista Public Camp Ground of the United States Forest Service. On three previous contacts with the species, in the Chiricahua and Blue mountains of southeastern Arizona, the behavior was so completely identical that one is inclined to believe it typical. On two of the four occasions specimens were collected, which makes identification positive.

The occurrence in the Chiricahua Mountains, Arizona, was at 8200-foot elevation (Barfoot Park) where Apache pine, Chihuahua pine, Gambel oak, and aspen were the dominant trees. The Blue Mountains occurrence was 2000 feet lower, among sparse pine, oak and walnut growth, some few miles above the towns of Clifton and Metcalf. Aridity here made the elevation seem even lower.

The Mount Pinos occurrence was at 7500-foot elevation in typical Transition Zone. All records were made in July, and the Blue Mountains birds had half-grown young on July 5. The Mount Pinos bird had a shriveling brood patch which was being invaded by new feathers. The one nest located was twelve feet from the ground in an overhanging stub of Gambel oak. The entrance, facing downward, had been drilled by a woodpecker but tapped a larger fungus cavity, thus allowing the owls to nest some twenty inches farther back in the stub.

The young were clothed in long, cotton-white down which was being crowded off by the typical gray, cross-barred plumage of young *Otus*. There is no suggestion of rustiness in the plumage of the young. The cottony down of the tarsus is abruptly cut off distally by the bareness of the toes, a character notable in the adults. The "heel" in nestlings is bare. Adults may have a very small bare spot similarly located which scarcely seems the result of wear in the nest hole since the long feathers of the ankle joint are not visibly worn and cover the bare spot pretty closely.

The Mount Pinos bird has the light cross bars on the wing webs noticeably more rufous than the Arizona birds or than a California bird of fresh fall plumage. Otherwise the coloring is closely alike in all four adults. Eye color was so dark as to appear like that of the Spotted Owl or of the Barn Owl; and only once in a total of five or six hours of study of these birds with the electric torch, did I get a glimpse of eyeshine, even though I several times saw the birds fairly distinctly. Parenthetically, I feel that we are inclined to speak too definitely of the color of eyeshine in birds. It varies much, seemingly with the angle of entrance of the beam into the animal's eye. In carnivores I have seen it shift from green to pink and back again, with slight shift of the animal's gaze. In birds it may shift from white to pink. In owls I have seen it either white or pink.

In a Horned Owl studied at twenty feet distance, one eye was noticeably deeper pink than the other and this discrepancy was pointed out at the time to several students in a small group. The eyeshine in *O. flammeolus* on the one occasion when seen was white, and only one eye was visible which suggests that the bird was not looking directly at the light.

Two different vocal notes were produced by the birds and a third one could

surely have been given by no other species. One of these notes would correspond to a song, one I would interpret as sharp alarm, and the third is more of a worry note. The "song" consists of two short notes and a pause of about equal length, repeated *ad libitum*. The quality is typical of the whistle of Screech Owls and the pitch slightly lower than that of the Pigmy Owl. This note was heard in the vicinity of the nest tree above Clifton at 2:30 a.m., but ceased soon after I had assembled enough clothing to start an investigation. It then gave place to the "worry call" as I prospected the vicinity of the nest. The "worry call" is a peculiar hoarse whistle difficult to approximate with the human apparatus, is pitched higher in the female, and is most confusingly ventriloquistic, sometimes dropping to a scarcely audible whisper at a distance of eight or ten feet. Regarding this note, my journal runs as follows: "With this squawk deeply impressed on my memory from two hours' work with these birds, I was startled next day in broad daylight on the street in Springerville by almost the identical note. It came from a very small infant in arms in a car parked at the curb."

This "worry call" was consistently used by the Mount Pinos bird, although there was no discoverable nest in the vicinity. I am confident that the "worry" was a real one caused by the imitated notes of Spotted Owl or of Horned Owl. These larger owls not infrequently prey upon their smaller relatives of various species, and *flammeolus* is probably an easy victim.

The sharp alarm note was heard only in the Mount Pinos contact, and it was unquestionably given by the same bird as gave the "worry" call. It is a peculiar, sharp, short, cat-like "yeow" which is often followed by the "worry" call. In fact, while the "worry" call was being given at intervals of several seconds, the alarm call could be stimulated by a Spotted Owl hoot. After about an hour, the little chap ceased to react to a Spotted Owl note, so I gave the Horned Owl's note, with immediate results—the alarm note came back with startling suddenness.

After all, a profound and prolonged silence is probably the most characteristic "vocal" attribute of the species.

In handling these little owls, one is constantly impressed by their frailty. Not alone are they of tiny size generally, but their bony framework is most fragile.

Except for the femur, the leg bones are longer than in the Pigmy Owl (*Glaucidium gnoma*), but are noticeably smaller in their transverse diameters. The femur is smaller in all dimensions, the tibia is slightly longer, but much smaller in all its other axes, the tarsus is much longer but scarcely half as broad. These characteristics of the lower limb all point to a degeneracy of the predatory habit so far as vertebrate prey is concerned, hence I was not surprised that the stomach contained only insects. The sternum is slightly broader, much flatter, and with a much less developed carina. The coracoid is shorter, weaker, with narrower head and base, and less pronounced muscle scars. The humerus is longer, relatively weaker and very much straighter than in the Pigmy Owl. All these characters indicate less speed or versatility in flight. The differences are quite comparable to those between a Prairie Falcon and a Swainson Hawk and are again doubtless correlated with a weakening of the predatory habit.

In a former note on the Pleistocene occurrence of *O. flammeolus* (San Diego Soc. Nat. Hist., vol. 7, 1933, pp. 209-210) attention was called to the close approximation in size of the tarsus to that of *Micropallas*, and the present increased amount of study material of both species strengthens the points there made. We are dealing with an elfin screech owl, of timid and retiring habit and with a notably reduced predatory ability.

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