Nesting concentration of Long-eared Owls in Cochise County, Arizona.—On April 16, 1956, I found a nest of the Long-eared Owl, (*Asio wilsonianus*), on the John Sala ranch, about 12 miles north of Tombstone, Cochise County, Arizona. Between April 16 and June 8, 1956, six nests of owls of this species were found within a diameter of 3 miles.

The elevation of the ranch at the mouth of Granite Springs Canyon is 5190 feet; it lies in the foothills on the south slope of the Dragoon Mountains. The predominant vegetation consists of grasses with scattered yuccas and mesquite; there is an extensive area of live oaks west of the ranch house and along Granite Springs Canyon. All nests were found in this live oak area. The nests used by the owls were apparently old ones of Ravens (*Corvus corax*) or Cooper's Hawks (*Accipiter cooperii*). The nesting area is in the Grassland Subzone of the Upper Sonoran Life Zone, as delimited roughly by the 4000- to 5000-foot elevation.

The first nest (April 16) was situated approximately 50 to 55 feet up in an Emory oak (*Quercus emoryi*) in oak woods along the dry stream bed near the mouth of Granite Springs Canyon. Besides the dominant Emory oaks, trees consisted of Arizona white oak, (*Quercus arizonica*), velvet ash, (*Fraxinus velutina*), and a scattering of Arizona walnut (*Juglans major*), western hackberry (*Celtis reticulata*), western box-elder (*Acer Negundo* var. *interius*), and alligator juniper (*Juniperus deppeana*). Thick grape tangles near the nest were used by the owls as a roosting place. A Cooper's Hawk nested in an oak about 100 feet from the owls' nest. Nests of Black-chinned Hummingbirds (*Archilochus alexandri*) and the Common Bushtit (*Psaltriparus minimus*) were observed in the vicinity.

The owls' nest found on April 16 held three downy young which were standing up and stretching their wings. An adult lay on the edge of the nest. It did not flush as I moved about underneath. On April 27, the young were still in the nest. By May 6, the nest was empty; and on May 8, one young was perched near the nest, and the other two in nearby trees. On May 28, the young were still about the nest and were flying well, but on June 5, the family could not be located.

Nest no. 2 was found on April 23, about one-fourth mile down Granite Springs Canyon from the first. It was 18 or 20 feet up in an Emory oak in an isolated clump of oaks on a high bank above the stream bed. There were three young in the nest and one smaller dead one under the tree. This nestling was probably only a week old or less because it still retained its egg tooth. This chick (a female) was prepared as a study skin, and is now in the collection of Dr. Allan R. Phillips. On April 27, when I climbed a nearby tree to photograph the nest, one young jumped from the nest to the ground. After photographing this bird, I placed it up about seven feet in the nest tree; it eventually reached the nest. On May 2, the nest was empty, and several days later the young were located in nearby oaks.

Nest no. 3 was located on May 3, approximately 20 feet up in an Emory oak in a wash with a scattering of oaks, mesquite (*Prosopis juliflora*), (*Yucca* sp.), and beargrass (*Nolina microcarpa*) in the vicinity. A dead adult Long-eared Owl and one small live downy young were on the ground beneath the nest. I placed the young owl in the tree but it did not survive. The other parent was not seen.

Nest no. 4 was situated in an isolated group of oaks in a little valley in the grasslands. This nest was about a mile and one half from Nest no. 2. It was 20 feet up in an Emory oak and contained four downy young on May 10. When I first approached the nest an adult flushed from the nest and flew to the ground where it uttered the characteristic cat calls and flapped its wings. It also dived at me every time I neared the nest. These were the only adults of the six pairs that behaved in this manner. A Cooper's Hawk nested in

an oak some 200 feet from the owls' nest. On several occasions the hawk was seen to leave its nest and chase the owls as they flew about. This was the only friction noted between the two species. On May 15, while I was climbing the tree to photograph the young, two of them jumped from the nest, one landing on a lower limb, the other on the ground. I later placed this latter nestling up in the tree with the other young owl. The wing feathers of this nestling were slightly over two inches out of their sheaths, and the tail measured one inch from the sheaths. The black facial disks were beginning to turn brown. On May 21, the nest was empty, and none of the young could be found. It was not until June 8 that an adult and the four young were flushed from a roost in a nearby oak.

Nest no. 5, located on May 10, was 18 to 20 feet up in an Emory oak in a group of oaks in a wash. It was about a mile or more from Nest no. 3. Three young were flushed from adjoining oaks, and on May 18, there were four adult-sized young in a tree near the nest. The nest was much smaller than the other owl nests, being about the size of a Roadrunner's (*Geococcyx californianus*) nest.

On June 8, I found Nest no. 6, 15 feet above ground in an Emory oak in a clump of oaks along a wash. An adult and two large young were in nearby trees.

During the study, I collected about 73 Long-eared Owl pellets that were found under roosts near the nests. I am much indebted to Mr. John R. Mikita, Department of Zoology, University of Arizona, for analyzing this material for me.

The following species were identified in the pellets:

Species	No. of Individuals
Notiosorex crawfordi, Desert Shrew	7
Thomomys bottae, Valley Pocket Gopher	2
Perognathus flavus, Silky Pocket Mouse	8
Perognathus penicillatus, Desert Pocket Mouse	11
Perognathus sp.	193
Dipodomys merriami, Merriam Kangaroo Rat	19
Dipodomys ordi, Ord Kangaroo Rat	7
Dipodomys sp.	5
Reithrodontomys megalotis, Western Harvest Mouse	4
Peromyscus eremicus, Cactus Mouse	10
Peromyscus sp.	14
Onychomys torridus, Southern Grasshopper Mouse	33
Neotoma albigula, White-throated Wood Rat	1
Bird ("a small junco-type")	1

In the western United States, concentrations of nesting Long-eared Owls have been reported for California and Utah, but not for Arizona (Bent, 1938. *U. S. Nat. Mus. Bull.*, 170:155–156). In fact, this owl has previously been considered a rare breeder in Arizona. Seven of the nine other known breeding records are for southeastern Arizona (Pima and Cochise Counties).

The Long-eared Owl has an extended nesting season in Arizona. The previous records indicate this as well as my own observations. Two examples will suffice: Dr. Mearns collected a female from a "Cienega" 10 miles west of Camp Verde in north-central Arizona on February 20, 1886, which according to his MS., "was about to lay eggs." A. J. van Rossem writes (1936 *Trans. San Diego Soc. Nat. Hist.*, 8:134) of a "family of these owls in the mesquite (Lower Sonoran Zone) along the dry stream bed at Bates Well. The young were nearly full grown, but partly in juvenal plumage. One specimen, a juvenal male, was collected on June 23, 1932."

In a habitat dissimilar to the Emory oak situation, C. M. Palmer, Jr., of Tombstone, found a nest near Lewis Springs on April 27, 1955. The nest was in a mesquite and held three downy young. The vegetation was creosotebush and black brush association. He found another nest on March 23, 1957, in a desert hackberry in a dry wash, about eight miles north of Tombstone, but he gave no details of the contents of this nest (Letters, March, 1957).

The nesting season of the owls in 1956 was lengthy. The family of Nest no. 2 were out of the nest on May 2, while Nest no. 3 held a downy young on May 3. The young of Nest no. 4 were still in the nest on May 10; on the same date, the young of Nest no. 5 were on the wing.

In the vast plains and mountains of Arizona, the Long-eared Owl might easily be overlooked when we consider the fact that ornithologists are a rarity in the region. More intensive field work in the nesting season would probably reveal more nests. Two factors which seem to me to account for the concentration of owls in this small area were the availability of many nesting sites and the apparent abundance of small mammals.

I wish to thank Dr. Allan R. Phillips for his criticism of the manuscript and for the early records; C. M. Palmer, Jr. for his records; John R. Mikita for analyzing the pellets; and Mr. and Mrs. John P. Sala for their many kindnesses to me while I was at their ranch. Without their combined help, this study would not have been completed.—JOHN J. STOPHLET, *2612 Maplewood Avenue, Toledo 10, Ohio, January 13, 1958.*

A Palm Warbler in Oklahoma.—On April 26, 1958, I collected a specimen of the Palm Warbler (*Dendroica palmarum*) in a wooded section of Bird Creek bottom land, three miles northeast of Tulsa, Tulsa County, Oklahoma. I found the bird preening in a small tree approximately five feet above the ground. It was alone and was not singing.

Nice (1931. *Publ. Univ. Okla. Biol. Surv.*, 3) lists the Palm Warbler as a rare transient in eastern Oklahoma, noting that no specimen had been taken in the state at that time. I have found no record of a specimen taken here since then.

In this male the testes were somewhat enlarged, 3 mm. in diameter. It was moderately fat with measurements as follows: wing length (chord), 66 mm.; tail length, 52 mm.; length of exposed culmen, 12 mm. The pre-nuptial molt of the head and throat region was in progress. Several bright yellow feathers on the throat were sheathed.

On the basis of plumage color, it appeared to belong to the western race (*Dendroica palmarum palmarum*). This was verified by Dr. George M. Sutton at the University of Oklahoma Museum of Zoology where this specimen is now No. 3355.—JOHN S. TOMER, *4045 East 27th Street, Tulsa, Oklahoma, September 10, 1958.*