of Port Tobacco, Charles County, Maryland. More than one hundred of these noisy inquisitive creatures were encountered in a single flock and more than half their number were concentrated in one tree. That this large concentration is unusual is evidenced by the fact that in this same area, when spring and summer censuses were taken, only two Blue Jays were counted during an entire day in May, and three during a similar period in July. This would seem to give added support to the belief that large mass movements and migration occur among this species.—CLARENCE COTTAM, Bureau of Biological Survey, Washington, D. C.

A California Shrike Kills Trapped Nuttall's Sparrow.—During the morning of January 21, 1937, I caught a California Shrike (*Lanius ludovicianus gambeli*) in my Western Bird-Banding Association two-compartment trap at Benicia, California. A freshly-killed Nuttall's Sparrow (*Zonotrichia leucophrys nuttalli*) was in the other compartment.

Twice before I have caught Shrikes in this trap, but on each of the other two occasions the birds serving as "bait" in the other compartment were very much alive and excited when the trap was visited. This time, however, the Shrike had killed its victim before getting caught in the other section of the trap.

The victim's throat had been torn open and the body pulled forward against the bars in the front of the cage. The Nuttall's Sparrow was an adult with beautiful white crown-bands and bore an aluminum band which I had placed upon its leg three months before—on October 20, 1936.

It was suggested to me that I kill the villain in this tragedy. However, my bird-killing tendencies being very dormant, I banded and released him.—EMERSON A. STONER, Benicia, California.

Further Tree Swallow Notes.—Several elements of the 1936 Tree Swallow (*Iridoprocne bicolor*) breeding season at my station in East Westmoreland, New Hampshire, seem to be of sufficient interest to be recorded. It is concluded that adverse weather conditions during the breeding season were mainly responsible for a rather unsuccessful year. The following table of the 1935 and 1936 seasons are given for a comparison:

1935

79 eggs laid in eighteen nests.
4 eggs addled.
6 young flew, unbanded.
3 young died before banding.
1 young died after banding.
3 adult females were banded.
66 young banded.

RETURNS

34–24337, female, banded on June 16, 1934, a first-year breeder at substation C, returned on July 15, 1935, to the main station.

F60913, male, banded on June 11, 1932, as an immature, a return-3 on April 27, 1935, at box of birth.

1936

105 eggs laid in nineteen nests.
17 eggs addled or destroyed.
4 broods, or part of, flew, unbanded.
25 young died unbanded.
11 young died after banding.
9 adult females were banded.
51 young banded.

RETURNS

L34878, female, banded on May 24, 1934, a return-1 on June 7, 1936.

34–51591, female, banded on June 3, 1935, a return-1 on June 9, 1936.

34–24346, banded as an immature on June 20, 1934, was a recovery on June 18, 1936, at Loudon New Hampshire.

35–56006, banded as an immature on June 16, 1935, returned on May 21, 1936, at Park Hill, Westmoreland, about four miles from the banding station; a female, since she started nesting in a metal mailbox standing on a four-foot post close to the road in front of the house. The nest-material was cleaned out, and, the folllowing day, this bird persisted in another attempt to nest, leaving after her consequent capture.

35–56023, an immature banded on June 16, 1935, was a first-year breeding female to return on June 26, 1936.

Thus four-fifths, or forty, banded in 1939 lived to leave the nests, showing the seasonal increase as a small percentage of about 50 per cent of the eggs laid. Several factors seem to enter into the reasons for this drop from former years' results, markedly shown in the above 1935 tabulation. First-year breeding females arrived in about equal numbers with older females and both were present together to select nest-boxes, which activity was rather retarded, partly owing to an increase of Bluebirds which were slow in nesting, and, until they became settled, kept the Swallows in an interrupted state of agitation. Only one female Swallow was forced to give up her nest-box, however, in favor of Bluebirds. Hence there was none of the separating of mates among the Swallows by first-year females that had happened formerly (see *Bird-Banding*, Vol. VI, pages 33–35). It might seem unusual that the Swallows did not band together in a sort of protective display, as is commonly the case in such an instance. One reason for this lack is plainly seen because of the presence of a pair of Sparrow Hawks nesting in a dead maple stub cavity near by; the Hawks often passed low over the apple orchard, where this concentration of bird-boxes are erected on poles, or alighted in the trees or even on the boxes, presumably watching for mice or insects, which were sometimes caught here. And on such occasions the Swallows never failed to band together for the cause of vociferously pursuing the *Accipiters* until they left for other, quieter foraging grounds. The interesting result, to me, was that the hawk nest-cavity when later examined held no swallow-bands in the pellet-refuse to show that birds had been included in the feeding *menu* for the growing Hawks.

Protocalliphora maggots were common in the nests and were found attached on the eyelids and soft parts of the bills of young even in midday. Most of the parasites matured and went into pupæ by the time the first young Swallows left the nests, since their period of growing to flying was protracted somewhat, as herein noted. It seems certain that the weather-changes were mostly responsible for the lack of enough food at the proper time, which weakened the fledglings and caused their subsequent deaths. It was noticeable that, as a rule, the smaller fledglings survived such conditions better than the larger nestlings. This, of course, was most noticeable when a hot period was followed by wet or damp weather. The young were then the more susceptible to further weakening by the ravages of the blood-sucking maggots. It was at such times that the fledglings in the more advanced size readily succumbed. Also many young died from chilling when the night temperature registered as low as the 30's, especially after the females had ceased night brooding.

In one nest a sixth fledgling matured after the other five had flown, as it then received the required food it had been unable to get owing to its lack of strength. In another nest, on June 22d, there were an addled egg, three dead young in an advanced stage of decomposition, and one living youngster then three-fourths feathered. The male was never seen near the box, the female alone making swift feeding visits. This situation was improved by cleaning out the box and putting in new grass, and the youngster reached the flying stage.—Lewis O. Shelley, East Westmoreland, New Hampshire.

Morning Awakening Time of a Mockingbird.—During the winter of 1935–36 a female Mockingbird (*Mimus polyglottos leucopterus*) wearing Biological Survey band A267254, roosted nightly in a high hedge of Pyracantha only three feet from my bedroom window at Davis, California. Every morning this bird would announce its awakening with a loud series of call-notes from one to five minutes before it left its roosting-perch. Daily observations were made on the exact time at which these outbursts of call-notes would commence. A total of eighty-six observations were recorded between the first of December and the first of April, when the mating-season brought an end to the regularity of the bird's behavior.

By subtracting the awakening time of the bird from the local sunrise time of each observation day, all records were reduced to terms of "minutes before