

The plight of the bluebird in Michigan.—The plight of the Eastern Bluebird (*Sialia sialis*) over much of its range in eastern United States is rapidly becoming a matter of record (see *Audubon Field Notes*, Vol. 12, Nos. 3 to 6, 1958). To this I wish to append my meager Michigan data for the spring, summer, and fall of 1958.

In April and May several people called me to ask what had happened to the bluebirds. People who had had bluebird tenants for many years had none this spring. A check of my own records showed that up to May 24 I had no Ingham County observations of this species; my only notebook entry was of a bird heard "warbling," but not seen, on April 19, about 10 miles north of St. Johns in Clinton County.

On May 24 six students and I took our annual May-day count in which we cover, in marathon fashion, all of the better known local birding spots. Increasingly conscious of the difficulty we might have in adding the bluebird to our list we covered many miles of promising habitat before getting our first and only record along a back road west of Lansing. Another segment of our searching party also located one bluebird. This west Lansing bird proved to be my only Ingham County record for 1958, but Mrs. Walter Halliday, who had been checking all spring on the disappearance of bluebirds from their former Okemos nesting sites, reported that she had finally located an occupied nesting box and that it produced young. Other local observers reported similar experiences, i.e., few or no bluebirds. Only four spring records were turned in for the Michigan Audubon Society's Bird Survey report.

During the summer session at our Gull Lake Biological Station I had difficulty finding bluebirds anywhere in the several counties covered on field trips. On June 28 I spotted one on a telephone wire on M-89 near Augusta (Kalamazoo County), but was not able to relocate it on several subsequent visits to that area. On July 25, however, we found a pair along a back road in Allegan County, near Fennville.

In September Mrs. Wallace and I took a 12-day trip into the eastern part of the Upper Peninsula. Though well aware by then of the state-wide scarcity of bluebirds, I had some expectations of finding them assembling on roadside wires, as is their custom at that time of year. Our first two bluebirds were encountered on September 8 near Wolverine, 204 miles (by my odometer) north of East Lansing. Our next record was 10 days and approximately 1,000 miles later, when we located a group of six birds along a gravel road near Moran in Mackinac County. In six days of observations on fall migration at Whitefish Point, Chippewa County, where we recorded 77 species of birds between September 11 and 17, we did not see or hear a single bluebird. We also made a cursory check of the Gould City area (Mackinac County), where Dr. Karl Christofferson told us he had formerly seen large flocks (up to 75 in one count) in September and October. We found none in about 10 miles of slow driving (with frequent stops to look and listen) along back roads. At his station in Blaney Park, Dr. Christofferson had one pair of nesting bluebirds this summer in the 60 boxes he has provided for birds.

Our only other bluebird record on this 1,668-mile trip, mostly in ostensibly favorable bluebird country, was of two birds perched on wires along U.S. 27 near Otsego Lake on September 19—a total of 10 birds in three places in 12 days of observations. By contrast we counted 31 Sparrow Hawks (*Falco sparverius*) in about 15 different places (average of two per locality), mostly along roadside wires, as the bluebirds should have been.

Some of the reasons for the decline of the Eastern Bluebird over much of its former range are not hard to assess. It suffers from competition with more aggressive hole-nesting species, such as the Starling (*Sturnus vulgaris*) and the House Sparrow (*Passer domesticus*). Even native birds, such as Tree Swallows (*Iridoprocne bicolor*) and House Wrens (*Troglodytes aedon*), often win out in conflicts with bluebirds (Batts, 1958. *Jack-pine Warbler*, 36:138). Bluebirds are also subject to severe climatic changes—the un-

precedented winter of 1958 will go down in history as a disaster of major proportions for bluebirds and other insectivorous species that winter in the southern states. Many people suspect insecticides, but the evidence for this rests largely in the disappearance of the species from modern orchards, croplands, and roadsides in settled areas. Some bluebirds are showing up among the many victims of the ill-conceived fire-ant control program in the southeast; completion of the projected program, which comprises a large part of the Eastern Bluebird's winter range, might well write the finish of this once familiar and much beloved bird. Perhaps the key to the whole problem lies in the widespread loss of favorable habitat, from all causes. In Michigan, at least, the bluebird now seems to be largely restricted to the jack-pine areas of northern counties and the more remote, abandoned or uncultivated farmlands.—GEORGE J. WALLACE, *Department of Zoology, Michigan State University, East Lansing, Michigan, January 17, 1959.*

The poisoning of meadowlarks with insecticides.—On March 6, 1958, Everett Woods, graduate student in the Department of Entomology, informed Dr. F. M. Baumgartner and me that meadowlarks were digging and eating freshly planted oat and barley seeds on a test plot at the Small Grains Laboratory. We thought it a good opportunity to test some candidate chemical bird repellents, so I went immediately to observe the plots. Twenty meadowlarks were feeding on the plots at that time. Closer observation on that date and on subsequent days revealed that the birds started by picking up scattered grain on top of the ground, digging up large pockets of grain where the planter had stopped at the end of the rows, and then starting down the rows digging up the seeds as they went. We made plans to spray the area with repellents, but adverse weather conditions all during March prevented us from doing it.

The following day, seven dead Eastern and Western Meadowlarks (*Sturnella magna* and *S. neglecta*) and a very sick one were found near the plots. A quick check revealed that the seed of each of two plots, four rows 10 feet long, had been treated with $\frac{1}{4}$ lb. to $\frac{1}{2}$ lb. of Di-Syston and $\frac{1}{4}$ lb. to $\frac{1}{2}$ lb. of Thimet per 100 lb. of seed, respectively. These two insecticides have an accumulative effect and are highly toxic to vertebrates. The sick bird appeared to recover fully and gain weight while being kept caged in my office. Its reactions seemed to have become normal as it soon became a pet and learned many tricks very quickly. About two months later, it suddenly quit eating and drinking and within a few days died.

Observations were continued on the plots until March 30, 1958. The meadowlarks continued to dig seed in some of the plots, and although large feeding areas and roosts were thoroughly searched, no other dead birds were found. These observations further point out the serious effects that some insecticides have on birds (Dewitt, 1957. *So. Car. Wildlife, Fall*). Indications are that unless extreme care is used when applying these chemicals very high bird mortality can be expected.—DAUDE N. GRIFFIN, *Department of Zoology, Oklahoma State University, Stillwater, Oklahoma, January 7, 1959.*

Blue Jay feeding on termites.—One day during the last week of June, 1957, a Blue Jay (*Cyanocitta cristata*) flew down directly from its perch in a tree near by to feed on a mass of winged termites concentrated on the top of an old stump in the front lawn of our house at Greenbelt, Prince George's County, Maryland. It pecked avidly at these insects for about two minutes, leaving the site only when someone went to the stump to apply insecticide. The insects were identified as *Reticulitermes virginicus* by Dr. Thomas E. Snyder of the U. S. National Museum, Washington, D. C.

The relatively few sight observations of birds eating termites, summarized by Blake (1941. *Auk*, 58:104) and Cowan (1942. *Auk*, 59:451), do not include the Blue Jay.—DONALD H. LAMORE, *Department of Biology, Cottey College, Nevada, Missouri, August 13, 1958.*