

not to my knowledge been found breeding in the Greater Antilles, nor had it been observed to breed in caves. Mr. Holdridge described the cave as halfway down a cliff, accessible only by means of a rope. He reported no birds flying about outside, but the floor of the cave was lined with nests so close together that it was difficult to step between them, and that the birds were fluttering about by the hundreds inside the cave. My first opportunity to revisit Mona Island after this report was in October, 1937, when through the courtesy of Mr. E. W. Hadley, Forest Supervisor, I was included in a party inspecting some work of the Forestry Service on this island. I availed myself of this opportunity and took a guide to the cave. I did not expect to find the birds nesting at that season of the year, but hoped to find enough feathers, bones, and eggshells to prove the identity of the species. My guide, one of the few residents of the island, pointed out to me the slight concavities used as nesting burrows. They were indeed all over the floor of the cave, some in total darkness, some in the dim light from the mouth of the cave. I gathered some feathers and eggshells from the more protected nests under rocks and ledges, and finally found a dead bird with skull entire and many of the feathers in good condition. Then, as I passed farther into the cave, a bird scuttled off among the rocks. We captured this and another individual, the only two seen, and were able to establish the identity as Audubon's Shearwater. This is, to the best of my knowledge, the first breeding record of this bird in the Greater Antilles, and a rather unusual nesting habitat, for this shearwater usually makes its own burrows in the earth. No attempt was made to count the number of nests, though my guide, who has used this colony as a source of eggs for many years, said there were thousands. The egg season is reported as being in January and February.—J. ADGER SMYTH, *Puno, Peru.*

Shore Birds Attracted to Streams Polluted by Sewage.—Year after year my best locality for observing shorebirds was along a branch of the Portage River thirty or forty rods below where a ditch enters it. This open ditch, three miles long, carried the sewage from the city of Bowling Green. After years of discussion and investigation a sewage disposal plant was constructed. It began operating in 1935. Since that I have found very few shorebirds along this part of the stream, where formerly I often found between twenty and forty.

In order of abundance they were Lesser Yellow-legs, Killdeer, Pectoral, Semipalmated, Solitary, Least, and Spotted Sandpipers, Greater Yellow-legs, Baird's Sandpiper, Semipalmated Plover, Sanderling, and Stilt Sandpiper. After rearing their young in Canada or Michigan, many of these birds return to northern Ohio late in July or early in August.

The part of the stream where the greatest number were observed is close to an important highway, so that they were not attracted to it because of its affording seclusion. It has some sharp bends and shallow water with many partly emerged stones, and some mud flats and sandy beaches.

One of my former students who knows the birds told me that in Norwalk, Ohio, he used to see shorebirds along the creek below where sewage from a portion of the city entered, and nowhere else in Norwalk. Since the disposal plant has been in operation, about four years, he has not seen shorebirds there. Below a dam on the Sandusky River in Tiffin, Ohio, October 3, 1936, I saw more than fifty shorebirds, a majority of them yellow-legs and Pectoral Sandpipers. I think their food was derived from sewage. Below another dam some twenty miles

farther south in the same stream I spent considerable time the next day looking for shorebirds but saw none. This was not near any town. These birds have often been seen in large numbers along the Portage River where it runs through the village of Elmore and along the Maumee River in Antwerp, which is not far from the Ohio-Indiana line.

Microorganisms of several kinds thrive in sewage. They are fed upon by other tiny creatures, and these in turn by those still larger. After a number of such transformations the material probably becomes a part of the molluscs, crustacea, and aquatic insects that are attractive to birds.—E. L. MOSELEY, *Bowling Green, Ohio*.

A Note on Highway Mortality.—While driving from Princeton, New Jersey, to Flagstaff, Arizona, on June 8-14, 1938, the writers made a count of bird mortality on the highways. Our results may be thus summarized:

Native birds (50 species).....	268	48.90%
English Sparrow (<i>Passer domesticus</i>).....	235	42.88
Chicken (<i>Gallus gallus</i>) and Pigeon (<i>Columba livia</i>).....	19	3.47
Starling (<i>Sturnus vulgaris</i>) and Pheasant (<i>Phasianus colchicus</i>).....	3	.55
Unidentified birds	23	4.20
Total.....	548	100.00%

Our route was through southern Pennsylvania to Washington, Pa., then on U. S. Route 40 to St. Louis and U. S. Route 66 from there to Flagstaff. After subtracting night driving, a count of dead birds was made over 2,195 miles, of which 867 were east and 1,328 west of the Mississippi River. Over this distance we found an average of one bird every 2.68 miles east, and one every 5.93 miles west of the river, or an average of one bird per four miles for the trip. English Sparrows were divided 164 east to 71 west, and native birds 133 east to 135 west of the Mississippi.

The number of birds found over considerable distances west of the river was undoubtedly much reduced by heavy rains and wind. In Arizona, where favorable conditions for counting obtained, 29 native birds (7 species) were counted in 155 miles, contrasting with 28 native birds (9 species) from the 210 miles driven in Ohio. Such comparisons, of course, are significant, if at all, only for species frequently killed by automobiles.

The following native birds were detected in greatest numbers: Lark (*Otocoris alpestris*), 32 (23 in Texas); Grackle (*Quiscalus quiscula*) 32; Robin (*Turdus migratorius*), 28; Nighthawk (*Chordeiles minor*), 20 (14 in Arizona); Shrike (*Lanius ludovicianus*), 15 (12 in New Mexico and Arizona); Meadowlark, two species, probably, (*Sturnella*), 13; Brown Thrasher (*Toxostoma rufum*), 11; Screech Owl (*Otus asio*), 11; Mourning Dove (*Zenaidura carolinenses*), 10.

Although automobiles may occasionally strike almost any species of bird, we were surprised to find the following victims: Wood Duck (*Aix sponsa*), adult ♀ near Hazelgrove, Missouri; Chimney Swift (*Chaetura pelagica*), one at Edmond, Oklahoma; White-throated Swift (*Aeronautes s. saxatilis*), one west of Grant, New Mexico. An Eastern Kingbird (*Tyrannus tyrannus*) picked up June 14 twenty miles west of Holbrook, Navajo County, is apparently the first Arizona specimen of this bird (by four days!). The skin is in the collection of the Museum of Northern Arizona at Flagstaff.