

States to be occupied by the Great-tailed Grackle, *Cassidix mexicanus* (see Phillips, 1950. *Condor*, 52: 78-81). On April 24, 1950, a small section of one of three drainage ditches, fed by artesian wells, was treated with derris powder in order to obtain a sample of the fish life. Within an hour we observed several grackles eating minnows 1 to 2 inches long. The birds waded to a depth covering half their wings to pick up the fish, which were surfacing and swimming erratically downstream from the effect of the derris powder. After swallowing a fish whole, a grackle would leave the water and walk along the bank until it saw another dying fish. We identified the fish as *Gila purpurea* (Girard) and *Notropis mearnsi* Snyder. We saw about ten male and twenty female grackles.

The above observation suggests the possibility that fish may be a normal part of the grackle's diet at certain seasons. In arid parts of the southwestern United States and northwestern México, in a typical dry season, fishes are isolated in small pools along the stream courses in sufficient concentration to enable grackles to capture them. Oxygen depletion in these potholes would effect a behavior pattern of the fish similar to that caused by derris powder. Small fish hatched in the late spring congregate in still water along the shallow margins of streams and springs, thereby offering another possible normal source of food.

Derris powder has been used in recent years as a method of collecting fish and controlling fish populations. The active ingredient is rotenone. "The 'poison' does not in the least affect the edibility of the fish killed, nor is a concentration lethal to fish poisonous to terrestrial vertebrate animals, including man, which drink the water" (see Myers and Wade, 1946, Allan Hancock Pac. Exped., 9: 152-153). Extensive tests (see Krumholz, 1948, *Jour. Wildl. Mgt.*, 12: 315) have shown that birds may drink water treated with derris powder, and may eat fish killed by this chemical, without ill effects.—ROBERT RUSH MILLER AND HOWARD ELLIOTT WINN, *University of Michigan Museum of Zoology, Ann Arbor*.

A flight-song of Bachman's Sparrow.—On June 18, 1949, I was studying Bachman's Sparrows (*Aimophila aestivalis bachmanii*) on a long, shrub-grown ridge northwest of Bowling Green, Warren County, Kentucky. The day was very hot, and the sparrows did not commence singing until sundown. Shortly after sundown I saw a small fringillid in flight about 150 feet above the ground. It was ascending in an erratic, fluttering manner, singing a song which was completely unfamiliar to me. The song was bubbling and exuberant and, though distinctive, difficult to describe. According to my notes, it reminded me of a much speeded-up Indigo Bunting (*Passerina cyanea*) song of wren-like quality. I did not then succeed in collecting the bird, but the following observation convinced me beyond doubt of its identity.

On June 22, I returned to the ridge. Again the sparrows did not sing until dusk. It had grown too dark to see well when a sparrow flew into a low tree near me and uttered a song which I at once recognized as similar to the flight-song above described. This song was followed almost immediately by one of the typical songs of the Bachman's Sparrow. I collected the singer, a male Bachman's Sparrow in worn plumage with much enlarged testes.

In the literature concerning *A. aestivalis* I have not been able to find a reference to flight-singing or to any song definitely like the one described. However, Maurice Brooks (1938. *Wilson Bulletin*, 50: 102-105), who has compiled much of the pertinent literature, says (p. 104): "The louder songs are not infrequently interspersed with 'whisper songs,' so low that they are inaudible to a person at a little distance. Frequently there are broken twitterings between the more ordered songs as well. As with many of our fine songsters, individual birds show wide variations in their vocal abilities."

It is easy to see how flight-singing in *aestivalis* has been overlooked, especially if the phenomenon is primarily crepuscular. The bird itself is sometimes common in areas where its presence is wholly unsuspected.

One of the considerations prompting this note is the fact that the related Cassin's Sparrow (*Aimophila cassinii*) of the Great Plains has a well developed propensity to flight-singing.

In one of the apparently very few papers devoted to the subject of flight-songs, A. A. Saunders (1922. *Auk*, 39: 175) says: "The true flight singers nest in open grass areas, in places where perches are hard to find. Those that have occasional flight songs nest in woods or thickets where perches may be had if desired. Perhaps the frequency of perches has kept the flight song from developing in these species as it has in the prairie birds. If in some future time, something should change the habitat of these species to more open regions, it is probable that true flight song would develop quickly." In the meadowlarks (*Sturnella*), according to Saunders, *magna* rarely sings in flight, while *neglecta* does so regularly, the flight-songs of the two being very similar. He considers these flight-songs "ancestral," and the dissimilar "ordinary" songs to be a secondary specific development. Something of this sort might be postulated for the species of *Aimophila* here discussed, provided further information on flight-singing in *aestivalis* can be obtained.—ROBERT M. MENGEL, *University of Michigan Museum of Zoology, Ann Arbor.*

NEW LIFE MEMBER

Andrew John Berger was born August 30, 1915, at Warren, Ohio. Graduated from Oberlin College in 1939, he studied game management at the University of Missouri in 1940-1941, obtained his Master's and Doctor's degrees at Michigan in 1947 and 1950. He was in the U. S. Army Air Forces from March 15, 1941 to February 15, 1946, being released from active duty with the rank of Major. He now is teaching gross anatomy at the University of Michigan Medical School. A member of the A.O.U., the Cooper Club, and the Michigan Audubon Society, he has distinguished himself as Assistant Editor of *The Wilson Bulletin* and through his work with color-banded birds. He is especially interested in the morphology, behavior and classification of cuculiform birds.

