

A CONCENTRATION OF DICKCISSELS IN SINALOA, MEXICO

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ABSTRACT. — A spectacular concentration of Dickcissels (*Spiza americana*) in the state of Sinaloa, México, in early 1963 has hitherto gone unreported. It is herein documented as an event of considerable interest that adds to our knowledge of this species.

In early 1963, agriculturists in the region of the city of Culiacán were suffering from depredations on their wheat plantings by a dense aggregation of millions of birds that they took to be House Sparrows (*Passer domesticus*). Their complaints were brought to the attention of Alexander "Ike" Russell of Tucson, Arizona, a small-plane aviator who became acquainted with farmers and ranchers on numerous flying trips into México. Russell reported their grievances to Joe T. Marshall, who was with the University of Arizona at the time, and to Allan R. Phillips, who happened to be visiting in Tucson.

Marshall and Phillips responded by visiting the scene of the depredations on 10 to 12 April. They quickly ascertained that the birds in question were actually Dickcissels. According to farmers in the vicinity of Culiacán (Asociación de Agricultores del Río Culiacán), the birds appeared in early February in huge numbers, estimated to be in the millions (Figs. 1, 2, furnished to Marshall by the Asociación). They immediately began eating the unripened ("in the milk") kernels of wheat in the extensive fields along the Río Culiacán a few kilometers west of the city. They established a roost measuring approximately 12 hectares in extent in sugar cane plantations a few kilometers south of the main wheat fields. The area of the roost would indicate that an estimate of millions of Dickcissels was not excessive. The wheat crop in many fields was completely destroyed. Apparently kernels in the milk were available through the February-March period and into the first part of April.

By the time that Marshall and Phillips arrived, an outward migration was taking place, of such extent that they estimated only about 20,000 Dickcissels remained and the roosting area had diminished to an area of about 150 x 800 meters. Nevertheless the general area still seemed to be saturated with Dickcissels that were feeding in fields and singing in trees everywhere. Phillips and Marshall informed the farmers that the remaining birds would soon but gradually leave since they were approaching breeding condition.

The devastation wrought on the wheat fields, and in the nightly roosting area, did not occur without vigorous retaliation by the farmers, who applied huge quantities of pesticides, believed to be mainly DDT (dichloro-diphenyl-trichloro-ethane). This killed large numbers of birds and disabled many more. At the time of the Marshall-Phillips inspection, quantities of dead and dying birds were scattered about. Such were the numbers of the feeding and roosting birds that the poison had little effect on the overall population. Nor did the employment of firearms, explosives, and even slingshots and sticks wielded by numerous workers. Marshall and Phillips noted cattle and even horses that were dead or dying from the overzealous use of pesticide. Such harmful chemicals have been banned in many countries, but in México, sad to say, their use continues unabated. We in the United States are still subject to the importation of pesticide-laden fruits and vegetables and grains from México and other countries of Latin America.

Twenty-nine Dickcissel specimens were collected and prepared on 11 April, 1963. Nine specimens prepared by Marshall are in the collections of The University of Arizona in Tucson. Of the 20 specimens prepared by Phillips only one is in his collection at the

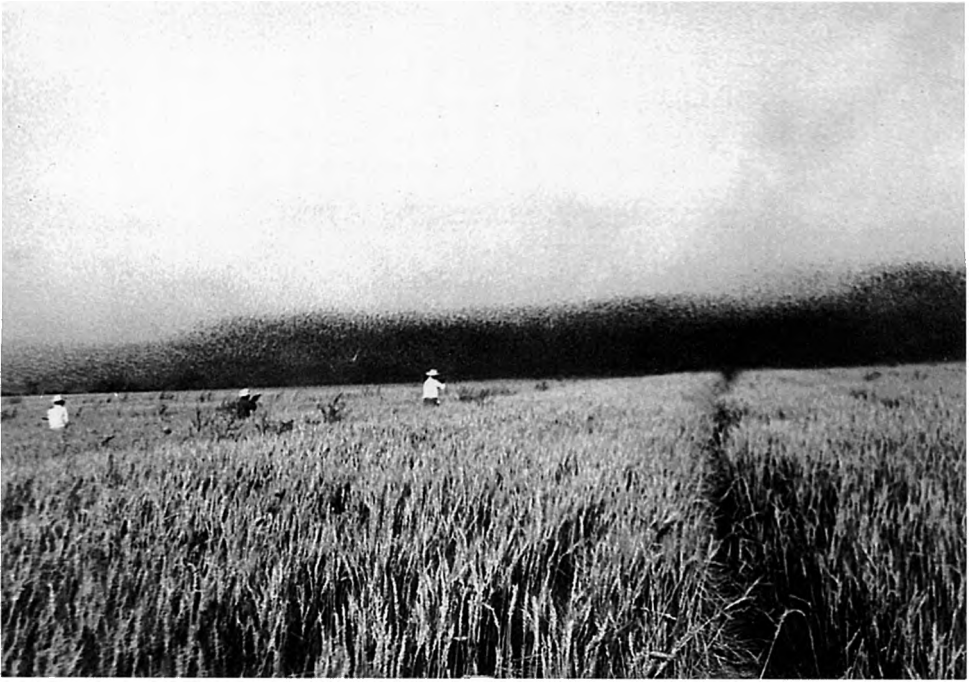


FIG. 1

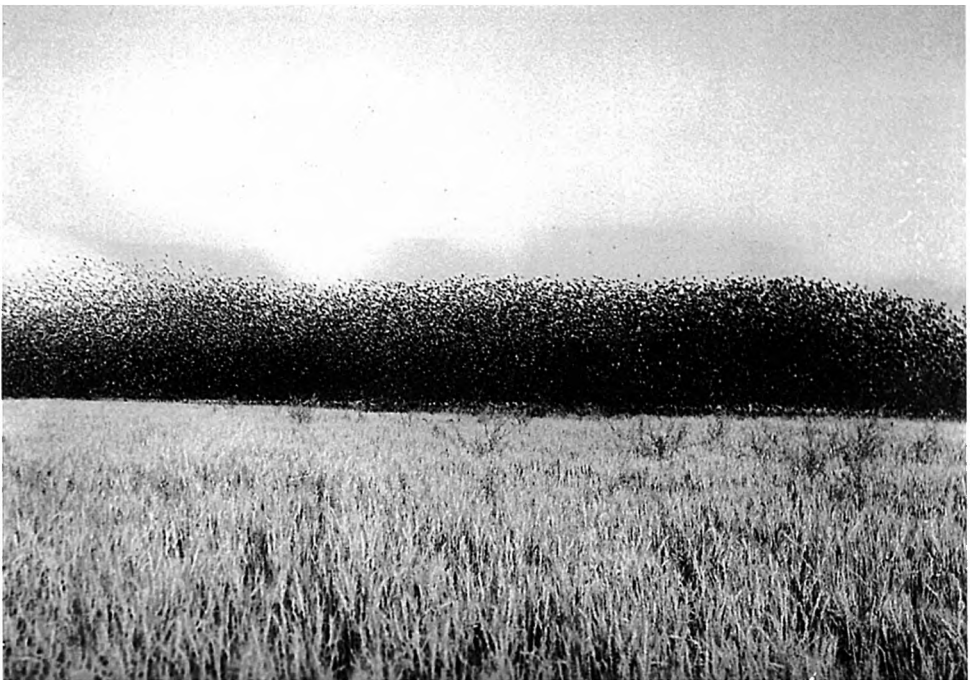


FIG. 2

Delaware Museum in Greenville; the whereabouts of the remaining 19 are unknown to me. Label data for all specimens are available, however. Of the 29 samples, 17 are female and 12 are male. Weights ranged from 22 to 34 grams, with no noticeable clustering and the males outweighing the females by an average difference of 31 and 25.3 grams respectively. Gonads varied in size, from small to mature. It is assumed that birds with the largest testes were singing males about to leave for the north. Some ovaries contained small but distinct ova. The amount of fat, irrespective of sex, ranged from none to moderate, with one male having an extreme amount. The extent of molt was rather evenly distributed among the specimens, from none or scattered to heavy or general. The only food in crops or stomachs (several of which were empty) consisted entirely of unripened wheat kernels and kernel husks.

It seems, in the light of other findings (notably Fretwell 1986 and Basili and Temple 1995) that this concentration in Sinaloa was unusual in terms of time and space, and serves to enhance the reputation of the Dickcissel for unpredictability. Among the questions raised in this instance would be, how and why did the birds in a swarm of perhaps unprecedented size select this novel locality as a gathering place to feed on unripened wheat kernels? Although the Dickcissel usually migrates up the Atlantic coast of Central America, the event here reported was the first and only time that probably the entire species migrated up the Pacific coast.

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