

## STATUS OF BREWER'S BLACKBIRD ON THE GRAND PRAIRIE OF EASTERN ARKANSAS

BY JOHNSON A. NEFF AND BROOKE MEANLEY

THE Grand Prairie of eastern Arkansas is described geologically as an upland plain in the Mississippi Valley part of the Gulf Coastal Plain. Comparatively flat, wooded lowlands border the principal drainage streams, but the higher, rather flat uplands are essentially treeless. The area lies mostly in Lonoke, Prairie, and Arkansas counties and is bounded on the west by the Bayou Meto, on the south by the Arkansas River, on the east by the White River, and on the north by Wattensaw Bayou. The name, we are told, was given by early explorers who found here a true prairie where typical prairie grasses grew waist high.

There is little doubt that even in those days of the virgin prairie, Brewer's Blackbirds (*Euphagus cyanocephalus*)—common birds of the more westerly plains—visited the Grand Prairie in winter, but even as late as 1950 there was insufficient information to permit accurate definition of the status of the species in the area. Hollister (1902. *Wilson Bull.*, 9:10–15) reported them at Stuttgart in 1902 and they have been reported by other students intermittently during the intervening years.

Early in 1948 Neff initiated an intensive study of the relationship of blackbirds and other species to the Arkansas rice crop, and in May, 1950, Meanley became resident biologist on the study, with headquarters at Stuttgart. Our task was to study the various species involved and to determine the status of each. During the six years of study much information on the Brewer's Blackbird was assembled.

Few observers on the Grand Prairie recognized the Brewer's Blackbird as a separate species. It was only a blackbird working over the fields, one of the myriad that spends the winter actively scavenging the fallow and stubble fields, or feeding on the plowed or newly-planted oat or lespedeza fields.

In this district, rice is sown in April or May. In earlier years rice was cut with a binder, shocked, allowed to dry in the shock, then threshed; often wet autumn weather delayed threshing till November or December, even occasionally into January. Early in the 1940's, studies were initiated on the artificial drying of rice and by 1948 more than half the state's rice acreage was cut with combine harvesters and dried at the mills. Today fully 95 per cent of the rice acreage is so harvested, and most of the crop is out of the field by mid-October. Binding and shocking remains a fairly common practice only in a few localities.

Oats are planted from September to November, and harvested in June.

Lespedeza is seeded in February or early March and the seed crop is harvested after rice harvest in October or November. A frequent practice is to burn off the stubble and waste straw after combining or before plowing for the next crop.

The Brewer's Blackbird is a common winter resident of the Grand Prairie and of the other open, prairie-like areas found in a number of other eastern Arkansas counties. Fully 10,000 birds wintered within a radius of 25 miles of Stuttgart and there was little or no visible fluctuation in their numbers during Meanley's four winters of observation.

The earliest arrivals come in October (October 6, 1952, October 13, 1951) but true fall migration does not begin before November 1. Flocks that sometimes number 2,000 arrive in the second week of November. In the spring, birds have been recorded in the area as late as April 21 (1951 and 1952); the bulk of them have left the Grand Prairie by late March.

Here, as in its more westerly range, the Brewer's is primarily a bird of the open country. It feeds in plowed fields, fallow land, stubble, and on newly-planted grain fields, and occasionally about cattle feed lots, hog pens, and straw stacks. Essentially ground feeders, these birds were never observed feeding on standing grain, but occasionally fed on shocked rice in the Slovak area (10 miles north of Stuttgart) and on stacks of threshed rice straw.

The feeding locations used most heavily by Brewer's Blackbirds were burned-over stubble fields followed in order by pastures, fall-planted oat fields, plowed fields, rice stubble and miscellaneous sites.

Few Brewer's Blackbirds arrive before rice harvest is completed, and their only attack on the ripe rice crop is upon shocked grain in localized districts. Most of the wintering population has moved northward before any but the earliest rice fields are seeded in the spring, but these birds undoubtedly pick up some of the uncovered seed grain in these early-planted fields.

Most of the Grand Prairie's oat acreage is planted after the arrival of these birds and they pick up only the seed kernels that remain uncovered on the surface of the fields. Damage to oat fields, however, is insignificant. Lespedeza seed does not interest any of the blackbird group and is taken only accidentally; this we have demonstrated by offering lespedeza seed to caged wild-trapped blackbirds which starved to death without taking a weighable amount of the seed.

When the Brewer's Blackbirds arrive in late October some fields of grain sorghum and field corn still are unharvested, but these birds confine their activity entirely to the ground, picking up kernels dropped by Red-winged Blackbirds (*Agelaius phoeniceus*), Brown-headed Cowbirds (*Molothrus ater*) and grackles (*Quiscalus*).

## FOOD HABITS

An extensive study was made of the food habits of all blackbird species involved in depredation upon the rice crop. No special effort was made to collect the minor species and at the end of the field work we had a total of 59 stomachs of the Brewer's Blackbird distributed as follows: January, 4; February, 8; March, 7; April, 2; October, 6; November, 26; and December, 6. For this seven-month period, vegetable food items comprised 84.3 per cent of the food, while insects or other animal matter averaged only 14.6 per cent. The value for plant foods is slightly higher than that reported for a five-month winter period by Martin, Zim, and Nelson (1951. "American Wildlife and Plants." p. 174).

Rice, mostly waste grain, comprised 36.5 per cent of the diet in 47 stomachs. Oats, made up 14.6 per cent of the total in 14 stomachs, and field corn and grain sorghum, all waste grain, totalled 22.4 per cent in 31 stomachs.

Seeds of barnyard grass or wild millet (*Echinochloa crus-galli* and *E. colonum*) made up 3.6 per cent in 26 stomachs. Seeds of bristleglass, paspalum, *Brachiaria*, crabgrass and panic grass were found in 51 stomachs and totalled 4.5 per cent.

Seeds and tubers of nutgrass, spike rush, sedges and other marsh vegetation were found in 13 stomachs but made up less than 1 per cent of the food. Croton seed averaged 1.6 per cent and ragweed seed made up only 0.3 per cent. Miscellaneous seeds included those of dock, smartweed, and some unidentifiable items.

Fragments of grasshoppers and crickets in 18 birds made up 4.7 per cent. Beetles of a number of species were found in 56 birds but in such small quantities that they comprised only 7.9 per cent. In addition to these, weevils of several species (including remains of the rice water weevil, *Lissorhoptrus oryophilus*, a serious rice pest) were found in 16 stomachs and added 0.7 per cent more. The remaining 2.4 per cent animal food was made up of minute quantities of a wide variety of insects including ants, stink bugs, flies and leafhoppers.

The food of the Brewer's Blackbird during its winter sojourn on the Grand Prairie is, therefore, largely made up of waste grain that has little or no value to the farmer. Only a minute quantity of seed oats or rice from newly seeded fields, or of unthreshed grain from shocked rice fields, can be classified as a loss to the farmer. At this season animal food is not abundant, but these birds manage to find a respectable percentage of insects, among them several of the farm crop pests of the Grand Prairie. Few if any of the farmers of the area would deny that this blackbird benefits them during its winter sojourn.

Small numbers of cowbirds, starlings (*Sturnus vulgaris*), redwings or grackles were often noted feeding with larger flocks of Brewer's, but as evening approached these detached themselves and joined the streams of their own species that crossed the evening sky from all directions, all headed for the currently-favored communal roosting thicket. The Brewer's alone remained aloof; only once was a Brewer's Blackbird found roosting in the central roost with the other species.

The Brewer's Blackbird is the last of the wintering blackbird species to go to roost each day—later even than the cowbird. Late in the afternoon an

entire flock might be found perched quietly on a rural telephone line alongside a stubble field; later, in the gathering dusk, the observer may be quite sure that the flock of blackbirds winging low over the stubble in wide circles is made up entirely of Brewer's, and that their chosen roosting site is somewhere in the stubble below them, for grain stubble or reasonably high grass is their preferred roosting cover on the Grand Prairie. This species is a little-known but truly interesting part of the immense wintering blackbird population of the Prairie.

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