

TABLE I  
DATA ON REPRODUCTION OF THE COMMON GRACKLE (May, 1966) IN CENTRAL ILLINOIS.  
On 8 May, 16 nests contained incubated eggs, but some clutches were incomplete.

	Class frequencies of clutch or brood size					Totals	Date May
	1	2	3	4	5		
Number of clutches	0	0	3	6	7	16	10
	0	0	0	0	0	0*	19
Number of nests with eggs and hatchlings	0	1	0	3	2	6	8
	0	1	1	1	4	7	10
	0	0	0	0	0	0*	19
Number of broods	0	1	1	2	8	12	8
	1	0	2	9	7	19**	10
	0	2	3	6	3	14**	19

\* No clutches were seen; all fertile eggs hatched, or were occasionally deserted.

\*\* Some fledged birds had left some of these nests.

to that at Lake of the Woods. Nests of two Mourning Doves, three Robins, a Brown Thrasher, and a House Sparrow were also observed at Lake of the Woods.—CHARLES A. LONG AND CLAUDINE F. LONG, *Department of Biology, Wisconsin State University, Stevens Point 54481, 3 November 1967.*

**Allopreening invitation display of a Brown-headed Cowbird to Cardinals under natural conditions.**—On 18 June 1966, I observed a behavioral interaction, which I interpreted as an allopreening invitation display, between a female Brown-headed Cowbird (*Molothrus ater*) and a pair of Cardinals (*Richmondia cardinalis*). In 68 hours observation of 10 widely separated pairs of Cardinals in Weakley County, Tennessee, between 29 April and 19 June, this was the only such observation.

I had observed the pair of Cardinals almost continuously since 04:42 CST. At 08:05 they were actively foraging together in a freshly plowed field near a low, narrow hedgerow when, suddenly, a female cowbird flew rapidly towards them and landed on the ground in front of the female Cardinal. The cowbird walked directly towards the Cardinal until their bills were about 5 cm apart. The Cardinal remained motionless for 138 seconds, and the cowbird for almost as long. The cowbird then opened its eyes, which had been closed for more than one minute, and assumed a hunch-backed attitude with bill pointing forwards at a 45° angle to the ground and feathers of the nape slightly ruffled. Maintaining this posture, she repeatedly approached the Cardinal; each time, the foraging Cardinal hopped away. The female Cardinal was approached about 30 times while foraging on the ground or perching in the hedgerow. The male Cardinal was approached once; he immediately took flight. After 5½ minutes, the cowbird flew away, leaving the Cardinals still foraging.

The cowbird was apparently adult. Neither of the Cardinals approached the cowbird, acted aggressively towards her, or made any attempt to preen her when approached.

Similar behavior of cowbirds in an aviary has been described by Selander and La Rue (*Auk*, 78:473-504, 1961). They suggest that under natural conditions such behavior results in reduced hostile tendencies of individual birds that are potential hosts for the cowbird. Harrison (*Behaviour*, 24:161-209, 1965) elaborates on other possible

functions. Among captive birds, an invitation display results in flight, attack, or allopreening. Selander and La Rue mention a "positive" allopreening invitation of cowbirds to a dummy male Cardinal placed in an aviary. They suggest that an allopreening invitation display is a regular feature in the behavior of noncaptive cowbirds. The fact that I have observed this behavior only once in three summers' intensive observation of Cardinals, all of which were members of populations microsympatric with the cowbird in both Tennessee and Ontario, suggests that it is rarely given towards this species, which is commonly parasitized by the cowbird in some areas (Scott, *Wilson Bull.*, 75:123-129, 1963; Wiens, *Wilson Bull.*, 75:130-139, 1963). As the cowbird is an easily observed species, the rarity with which observers of cowbird behavior record allopreening or an invitation display (J. Darley, pers. comm., familiar with the behavior in his captive birds, noted it only once in 300 hours of field observation at London, Ontario.) outside the aviary renders the biological significance of such a display questionable. Of course, it is entirely possible that we are observing the initial stages of a behavioral adaptation in a very recently evolved brood parasite.

This observation was made in a field study of the Cardinal supported by a National Research Council of Canada Studentship and a Louis Agassiz Fuertes Research Award from the Wilson Ornithological Society to the author and by an N.R.C. grant to D. M. Scott. I am grateful to D. M. Scott for his critical reading of an earlier draft of this note.—DOUGLAS D. DOW, *Department of Zoology, University of Western Ontario, London, Canada, 13 November 1967.*

**A Maine nest of the Scarlet Tanager.**—Palmer (Maine birds, *Bull. Mus. Comp. Zool.*, 102:518, 1949) remarks that although the Scarlet Tanager (*Piranga olivacea*) undoubtedly breeds in Maine, he could not find any record of a nest in this state. On 23 June 1967 we located a nest of this species near Sieur de Monts Spring, slightly over a mile from Bar Harbor. It was situated 8-9 ft. from the trunk of a lower branch of a hemlock approximately 30 feet above the ground, among a scattered hemlock grove that had escaped destruction by the disastrous forest fire of 1947. When found, the nest was nearly completed, and on 28 June the female was incubating. Both adults were seen feeding the young on 11 July. The morning of 22 July, the nest was watched intermittently between 7 and 10 AM and three fledglings were seen to leave, two before 8 AM the last about two hours later after considerable coaxing by the adult female carrying food. In mid-June the contour feathers of the adult male appeared completely scarlet, but at the time the young left the nest there were distinct patches of olive-green on the back and greenish yellow on the breast, sides and flanks.—BARBARA PATTERSON AND REGINALD ALLEN, *Somesville, Maine, 20 October 1967.*

**Lark Bunting in New Jersey.**—On 7 September 1962 I captured a Lark Bunting (*Calamospiza melanocorys*) in my net at the Operation Recovery Bird Banding Station at Island Beach, Ocean County, New Jersey. Realizing the rarity of this species, I brought it to Bertram G. Murray, Jr., for verification. He kept it as a specimen which is now in the University of Michigan Museum of Zoology (No. 157,599) and supplied me with the following information.

The bird was an immature female with an incompletely ossified skull and a small ovary (2.5 × 1.0 mm). It had little fat, an empty stomach, and weighed 28.9 g. While this species has been reported several times in the east, this is apparently the first substantiated record for New Jersey.—MABEL WARBURTON, *300 W. Trenton Avenue, Morrisville, Pennsylvania, 6 November 1967.*