

winged Blackbird (*Agelaius phoeniceus*) nest which also contained two young about eight days old. The egg (Fig. 1), which measured 17.39×13.74 mm, was partially dried out, and showed no evidence of embryonic development. It did contain yolk though, which is often missing from dwarf chicken eggs (Romanoff and Romanoff, op. cit.:295). Bent (op. cit.:133) gives 24.80×17.55 mm as the average egg dimensions for this species and 20.57×15.75 mm for the smallest egg in his sample. Since this Redwing nest, the only one I found on Grand Manan, contained an anomaly that is generally exceedingly rare, it is possible that dwarf eggs occur at a relatively high rate among Redwings on Grand Manan. An examination of the approximately 1,100 Redwing eggs at the United States National Museum yielded two additional dwarf eggs, measuring 14.19×12.59 and 17.20×13.60 mm (the latter egg was with a normal sized egg from the same clutch, the former egg was by itself) for a frequency of 0.18 percent. Like the dwarf Grackle eggs, these Redwing eggs were well below the size range of the other eggs.

The young in the Grackle and Redwing nests described above appeared to be normal so it is likely that the rest of the clutch was typical in size. However, all four eggs laid by a Catbird (*Dumetella carolinensis*) between 13 and 16 June 1967, in New Haven County, Connecticut, were abnormally small, although possibly not small enough to qualify as true dwarfs. The two that I measured (Fig. 1) were 20.47×15.15 and 19.55×15.18 mm as compared with a mean of 23.3×17.5 and minima of 21.3×15.8 mm given by Bent (Life histories of North American nuthatches, wrens, thrashers and their allies, Dover Publications, New York, 1964:324). Besides its unusually small eggs this nest had several other possibly interrelated aberrant features (see Rothstein, An experimental investigation of the defenses of the hosts of the parasitic Brown-headed Cowbird (*Molothrus ater*), Unpubl. Ph.D. Thesis, Yale University, 1970). In addition to the above mentioned nests, I have in the past seven years sampled approximately 1500 nests of some 35 songbird species with no other dwarf eggs being found.

A critical evolutionary question concerning any abnormality, especially such a maladaptive one as dwarf eggs, relates to the manner in which the feature is maintained. Dwarf eggs seem to be caused by temporary disturbances, accidents or infections in the oviduct and apparently do not have a genetic basis (Romanoff and Romanoff, op. cit.: 260-261), thus selection does not act against the genotype of the rare individual that lays a dwarf egg and cannot completely exclude the appearance of such anomalies. However, selection has undoubtedly acted upon the genetically determined aspects of egg laying so as to virtually exclude the appearance of dwarf eggs.

I thank Eugene S. Morton for his comments on this paper. The nests cited above were found during the course of field work supported by The Frank M. Chapman Memorial Fund, Sigma Xi, Yale University and the Smithsonian Institution.—STEPHEN I. ROTHSTEIN, Department of Biological Sciences, University of California, Santa Barbara, California 93106, 11 September 1972.

Physical combat in the Brown-headed Cowbird.—The Brown-headed Cowbird (*Molothrus ater*) is a highly gregarious species, and, although it is territorial during the breeding season (Friedmann, The cowbirds, C. C. Thomas, Baltimore, 1929), intraspecific aggression is rare, apparently being restricted to brief clashes and chases during "communal courting parties" (Nice, Studies in the life history of the Song Sparrow, Trans. Linnaean Soc. New York, 1937). Battles of any intensity are apparently unknown.

About 13:30 on 18 April 1972 I was walking in Schenley Park in Pittsburgh, Penn-

sylvania and paused to observe a lone male cowbird about twenty feet above the ground singing from the branch of a sugar maple (*Acer saccharum*). Another male suddenly approached the singing bird and, without pausing, attacked it. The two birds fell to the ground together and proceeded to roll over and over for a period of three minutes and fifteen seconds. They were not separated from each other at any time during this period, although they did occasionally lie still (resting?) for periods of five to ten seconds. When they finally broke apart, one flew to a nearby tree, and was immediately attacked by the other. A chase ensued and the combatants flew out of sight to the south.

The motives which may have caused this altercation are not immediately apparent. The early date and the fact that territorial defence, if present, is restricted to an intimidation display (Friedmann, op. cit.) suggests that the conflict was due to some factor other than territoriality. Competition for nest sites is unlikely, since it is the female of the species that selects the nest in which her eggs are deposited (Bent, Life histories of North American blackbirds, orioles, tanagers and allies, U.S. Natl. Mus. Bull. 211, 1958). However, competition for, or protection of a female is possible, since some cowbirds do have apparent monogamous relationships (Friedmann, op. cit.).

The uncommon tendency towards actual physical fighting is likely due to the fact that the cowbird has evolved a complex series of displays and postures (Laskey, Wilson Bull., 62:157-174, 1950) which would ordinarily serve to fulfill the function of actual combat. Thus, when fighting does occur, it may be because the individual has either not correctly interpreted an opponent's display, or its sexual (aggressive) drives are too strong to be fulfilled by a display. If this is in fact so, then an encounter of the duration and intensity described above becomes all the more unusual.

I wish to thank Dr. Jon C. Barlow for reading the manuscript.—PETER L. McLAREN, Royal Ontario Museum and Department of Zoology, University of Toronto, Toronto, Ontario, 23 October 1972.

Bronzed Cowbird extends range into the Texas Big Bend country.—The Bronzed Cowbird (*Tangavius aeneus*) has been a local summer resident in Big Bend National Park, Brewster County, Texas, only since 1969 when David Easterla (pers. comm.) observed four males and two females (one male was courting two females) in the Rio Grande Village Campground (1850 ft elev.) on 9 June 1969. I had not recorded the species on weekly visits there since August 1966. No further evidence of breeding was detected and birds were last seen on 4 July.

The Bronzed Cowbird next was recorded in the park, at Rio Grande Village, on 8 June 1970. At least six males and four females frequented the campground area until 3 July. On 12 July I found a Hooded Oriole (*Icterus cucullatus*) nest, hanging on a tamarisk, containing two juvenile Bronzed Cowbirds. One nestling was collected, and on 18 July the nest was empty and a juvenile Bronzed Cowbird was found 55 feet away being fed by both adult Hooded Orioles. And on 28 July I discovered another juvenile Bronzed Cowbird at an Orchard Oriole (*I. spurius*) nest, and watched a juvenile cowbird being fed by an adult female Orchard Oriole there on 30 July. In 1970, Pansy Espy (pers. comm.) recorded the Bronzed Cowbird in the Davis Mountains, Jeff Davis County on 23 June.

In 1971 an adult male Bronzed Cowbird appeared at Panther Junction (3800 ft elev.) on 22 May and remained until 29 May when it was banded and released. I found four male and four female Bronzed Cowbirds at Rio Grande Village Campground on 29 May, and at least a few of these individuals remained through 13 July. Also in 1971, at least