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Brown-headed Cowbirds fledged from Barn Swallow and American Robin nests.— Brown-headed Cowbirds (*Molothrus ater*) have parasitized at least 220 species of birds, of which approximately 144 species have raised cowbird young (Friedmann and Kiff 1985, Lowther 1993). For several species, records of parasitism are rare or based on circumstantial evidence. Here I document two unlikely species, American Robin (*Turdus migratorius*) and Barn Swallow (*Hirundo rustica*), raising Brown-headed Cowbirds at least to fledging age.

There is only one reported case of Barn Swallows raising a young cowbird (Sutton 1967), but it was undetermined if the cowbird fledged. Other accounts of Barn Swallows being parasitized are rare. No parasitism was observed in 322 Barn Swallow nests found between 1963 and 1975 in Louisiana (Goertz 1977), nor 185 nests in Iowa (Lowther 1985, 1991), and Hill (1976) found no parasitism in 284 nests in Kansas. Friedmann (1929) cites a single report in Iowa with little detail. More recently, Friedmann (1963, 1971; Friedmann et al. 1977), in addition to citing the Oklahoma record, mentions three records of parasitized Barn Swallow nests from Pennsylvania, one from Maryland, one from Manitoba, two (0.1%) of 1977 from Ontario, "several" from Kansas, and none out of 3776 nest records in the Cornell Univ. files.

Out of 67 Barn Swallow nesting attempts I observed in Osage County, Oklahoma, two (same nest twice) were parasitized by cowbirds. The first nest, first active on 30 May 1992, contained one cowbird egg and five Barn Swallow eggs. The nest was checked twice weekly until all young fledged. By 19 June, the cowbird egg had hatched and the nestling was two or three days old. On 23 June, the Barn Swallow eggs had recently hatched. The cowbird chick was banded on 26 June and was very near fledging. On 30 June the cowbird chick was gone and four swallow chicks remained. The last Barn Swallow chick fledged on 14 July, at least 14 days after the cowbird had left the nest. The cowbird was never seen outside of the nest, so it is not known whether it survived to independence. In the second parasitized swallow nest (late July) the cowbird egg failed to hatch.

The American Robin is known to be a rejecter of cowbird eggs (e.g., Friedmann 1929, Rothstein 1975). However, Brown-headed Cowbird eggs occasionally appear in robin nests.

Reported cases include one (0.8%) of 120 nests at Buckeye Lake, Ohio (Trautman 1940), one (0.2%) of 486 nests in British Columbia (Friedmann 1963), nine (0.3%) of 3586 nests in Ontario (Friedmann 1977), one (0.5%) of 216 nests in Louisiana (Goertz 1977), and one (0.5%) of 205 nests from Iowa (Lowther 1985). However, Elliott (1978) found two (40.0%) of five robin nests parasitized in Kansas. None of the parasitized robin nests reported above were known to have raised cowbird young.

Documented cases of cowbirds being reared by robins are very scarce. Trautman (1940) mentioned three cases of cowbird fledglings being fed by robins, but provided no details. Hodges (1949) located a robin nest in Iowa containing a cowbird nestling close to fledging, the first real evidence that robins may occasionally raise cowbirds. Lowther (1981) observed a fledgling cowbird being fed by an adult robin for 11 days in Kansas, but it is uncertain if the cowbird had been raised by the robin or had been adopted.

During 1992–1993 I found two (4.3%) of 47 robin nests parasitized in Osage County, Oklahoma. The first nest was found while under construction on 30 April 1993. On 4 May, it contained four robin eggs, and one cowbird egg. By 7 May, the nest was again empty, most likely depredated. The second nest also was found while under construction on 13 May 1993, and was empty on 17 May. On 20 May, the nest contained three robin eggs and one cowbird egg, all being incubated by the female robin. On 1 and 3 June the nest contained a cowbird nestling, one robin nestling, and two robin eggs. By 7 June the cowbird was close to fledging, and on 10 June only the robin chick and one robin egg were in the nest. The remaining egg and the interior of the nest were covered with feces, indicating that the cowbird nestling probably fledged. By 14 June the robin chick had also fledged. The robins and fledgling cowbird were not seen again.

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Lead poisoning in a Mississippi Sandhill Crane.—Lead poisoning from the ingestion of spent lead shot is well documented in waterfowl (Sanderson and Bellrose 1986) and has been reported in other wetland (Locke et al. 1991, Windingstad et al. 1984) and upland (Hunter and Rosen 1965, Locke and Bagley 1967) avian species. Ingested fishing weights have been implicated in lead poisoning of Trumpeter Swans (*Cygnus buccinator*) (Blus et al. 1989), Common Loons (*Gavia immer*) (Locke et al. 1982, Franson and Cliplef 1992, Pokras and Chafel 1992), Mute Swans (*Cygnus olor*) (Birkhead 1982), and Sandhill Cranes (*Grus canadensis*) (Windingstad et al. 1984). The significance of lead poisoning as a mortality factor in avian species other than waterfowl is probably underestimated (Locke and Friend 1992), and any cause of mortality becomes particularly important in species with small population sizes. We report here the first known case of lead poisoning in a Mississippi Sandhill Crane (*Grus canadensis pulla*), a critically endangered subspecies.

The Mississippi Sandhill Crane exists in the wild only in Jackson County, Mississippi, on the Mississippi Sandhill Crane National Wildlife Refuge (refuge) and adjacent private lands. In 1981, a program was initiated to supplement the free-ranging population by releasing Mississippi Sandhill Cranes on the refuge that were hatched and raised at the Patuxent Wildlife Research Center (Zwank and Derrickson 1981). As of 1 October 1993, 207 captive-reared cranes had been released, and the total wild population was 130 birds. One of the captive-reared cranes was found dead on the refuge on 27 February 1992, about 10 weeks after its release. Necropsy examination at the National Wildlife Health Research Center revealed the carcass to be that of a juvenile female weighing 2940 g. It was in poor flesh with an absence of fat reserves and markedly reduced pectoral musculature. No lesions of infectious disease or trauma were noted. The gall bladder was 2 cm in diameter by 4 cm in length and contained dark green bile. No food was present in the esophagus, proventriculus, or gizzard. The gizzard lining was dark brown and roughened, and within its contents were several small stones and a soft gray metal object. The object was triangular (8 × 8 × 10 mm), nearly flat, and easily deformed by pressure with a sharp instrument (Fig. 1).

Tissues were collected from the crane for laboratory testing using standard techniques in histopathology, microbiology, virology, and parasitology. Duplicate liver samples were homogenized, dried, and ashed in preparation for lead analysis by atomic absorption spectrophotometry according to Locke et al. (1991). The mean recovery rate for standard