

Current studies.

— Current studies on cowbirds in and near Illinois by Scott Robinson and the Illinois Natural History Survey have looked at the effects of habitat fragmentation on susceptibility of forest species to “new” cowbird pressure (e.g., Robinson et al 1995a, 1995b, 1996). Robinson’s studies, while examining this situation, have also acquired much information on rates and intensity of cowbird parasitism on many woodland species. Results from these studies are just beginning to be published (e.g., Robinson 1992, Koford et al., in press, Robertson et al., in press, Thompson et al., in press). Bill M. Strausberger has done extensive work (as yet unpublished) on cowbirds at Morton Arboretum, DuPage County, from 1994 to 1996. Other recent works include that of Thompson (1994) who examined habitat use and daily movements of radio-tracked cowbirds.

Common hosts.

— Friedmann (1963) gave a ranking of hosts by number of accumulated parasitism records; the 50 species with 25 or more records accounted for 7,800 of about 9,000 records he had accumulated. The top 17 species (with over 100 records each) include, in order: Yellow Warbler, Song Sparrow, Red-eyed Vireo, Chipping Sparrow, Eastern Phoebe, Eastern Towhee, Ovenbird, Common Yellowthroat, American Redstart, Indigo Bunting, Yellow-breasted Chat, Red-winged Blackbird, Kentucky Warbler, Willow [“Traill’s”] Flycatcher, Bell’s Vireo, Yellow-throated Vireo, and Field Sparrow. These 17 species are all known to be parasitized in Illinois. For the most part, this list includes widespread and common species and shows an eastern North American bias due to distribution of observers and egg collectors earlier in this century. This ranking is not a result of random

sampling efforts and represents neither rates of parasitism nor importance of host species.

Cowbird impact on host species’ populations depends on how distribution and abundance patterns of both host and cowbird match. Red-winged Blackbird (only 180 records in Friedmann’s list), likely North America’s most common bird and widely co-occurring with cowbirds, is an important cowbird host though sheer numbers of parasitism rates may be low; a 1% parasitism rate for Illinois alone would mean over 50,000 records of parasitism annually (given an estimate of over 5,000,000 Red-winged Blackbirds in the state; Graber and Graber 1963). At the other extreme, Kirtland’s Warbler

(with 80 Friedmann records) produces few cowbirds, although its own existence is actually threatened by brood parasitism; see also the account below for Solitary Vireo.

What hosts maintain Brown-headed Cowbird populations in Illinois? A simple arithmetic model may give some insight into the mechanism of population regulation as well as demonstrate the complexity of what must really happen. Given the crude estimate of 1.5 million cowbirds in Illinois (1.8 million cowbirds estimated in 1909 and 1.13 million in 1957; Graber and Graber 1963) and an estimate of adult survival at 40% (Scott and Ankney 1980), annual recruitment must be 900,000 birds in order to maintain a stable population.

Account Format.

I use the following format to present information on cowbird parasitism in Illinois. The following information may be included for each host species: (1) Categorization as either “victim” or “host”. Victim is defined as those species that have been only recorded as receiving cowbird eggs and host as those species that had been parasitized and have reared cowbird young. (2) Brief statement of abundance and preferred habitat in Illinois (summarized from Bohlen 1989). (3) Quantitative measure of abundance based on Breeding Bird Survey (BBS; Robbins et al. 1986) and/or state-wide population estimates from Graber and Graber (1963; G&G) for 1909 and 1957 or 1957 only. BBS serves to index population numbers on a continental basis and reflects biases inherent in its method (see Erskine 1978:26-30,57). Graber and Graber (1963) used data of systematic censuses throughout the state to extrapolate an estimate of total state numbers. (4) Summary of studies

with quantitative information about parasitism. (5) Details for “unusual” instances of cowbird parasitism (i.e., seldom used host or large number of cowbird eggs). Nest content information is given in the form “number of host eggs + number of cowbird eggs” (e.g., 2 + 3). (6) List of references with incidental mention of cowbird parasitism (“REF” serves as a header). (7) Summary of museum egg sets including cowbird eggs (following “SETS”); museum acronyms are listed in the acknowledgments.

Host response to cowbird parasitism may be to accept the egg or to reject it. Rejection of cowbird parasitism may be by deserting the nesting attempt, burying the cowbird egg in the nest lining, or ejecting the egg (Friedmann 1963). Egg ejection may result in underestimating actual rates of cowbird imposition (Rothstein 1975).

See appendix for listing of additional victim and host species which nest in Illinois, but have not been recorded as being parasitized in Illinois.