Catalog of Brown-headed Cowbird Hosts from Iowa

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The Brown-headed Cowbird (*Molothrus ater* [Boddaert]) is a wide-ranging brood parasite in North America. The species is not host specific, thus cowbirds interact with geographically varying host communities. Friedmann (1929, 1963, 1971, Friedmann et al. 1977) has compiled host records for cowbirds and most recently listed over 200 species that have had cowbird eggs in their nests. Friedmann indicated regional differences in host communities by listing states and provinces from which parasitism records came. I have consolidated the Iowa records from Friedmann's works and have added new records of cowbird hosts in Iowa. In addition to reports from the literature, data from the collections of 7 museums have provided Iowa records (see Acknowledgements for abbreviations) and Iowa's Nest Record Card Program has reports on 152 parasitized nests collected through 1982 (Newhouse and Ehresman 1982, 1983).

In an early account of the birds of Iowa, Savage (1894a) provided a list of 31 host species compiled from information provided by J. E. Law, R. M. Anderson, J. V. Crone and himself. Later (Savage 1897) he gave an account of his acquaintance with Brown-headed Cowbirds in Henry County. He listed 25 species of cowbird hosts and reported extreme dates of cowbird egg laying activity as 22 April and 27 July. Anderson (1907) added 10 species to Savage's (1897) host list. Studies of cowbirds and their hosts in Iowa are few and are limited often to anecdotal reports or observations incidental to studies of other species.

Brown-headed Cowbirds are common in Iowa (Dinsmore 1981; Table 1). Despite their abundance, their breeding biology has been little studied in the state (see species accounts below). To some extent, this is understandable since cowbirds are brood parasites and their nesting efforts are scattered about in the nests of many host species. This consolidation of cowbird host records can serve as a recent reference for field workers in the state and encourage observations and reports on the breeding biology of Brown-headed Cowbirds and their interactions with host species.

Of the many species recorded as cowbird hosts, those most important — in terms of numbers of cowbird young reared — are likely common species. Dinsmore (1981) listed the most common species recorded on Breeding Bird Survey routes in Iowa. Among the passerines on this list (Table 1) are 6 species that are likely the most important hosts in Iowa for nesting cowbirds. Only for two species are there Iowa data on cowbird-host interactions. Data are skimpy for the other four species but on the basis of other midwest studies these species are likely important cowbird hosts in Iowa. These species (and studies which have shown their interactions with cowbirds) are Red-winged Blackbird (see account below), Dickcissel (Zimmerman 1983), Common Yellowthroat (Hoflund 1957), Song Sparrow (Nice 1937), Eastern Meadowlark (Eliott 1978), and Vesper Sparrow (see account below).

**SPECIES ACCOUNTS**

In the following accounts, my citation of Friedmann refers primarily to his 1963 work with additional data from Friedmann (1971) and Friedmann et al. (1977). Often, not much more than "... Iowa ..." appears in Friedmann's accounts but any specific citation he gave I also include below. Each species account begins with a notation indicating total number of parasitism records tabulated by Friedmann and frequency at which the species has been noted to rear cowbird young (cf. Friedmann 1963:39-41). In addition, Iowa Nest Record Card data are summarized briefly. A species account may begin, for example, with F: 57, 2; NC: 2 of 18. This would mean Friedmann compiled 57 records of parasitism and 2 cases of cowbird young being reared and of 18 nest cards, 2 were of parasitized nests. In most cases, Friedmann described incidence of rearing cowbird young as "frequently" or "several times" rather than giving an actual number. Details of parasitism records known from Iowa comprise the remainder of each species' account.

- F: 8, 0; NC: 0 of 378.

Eastern Wood-Pewee, *Contopus virens* (Linnaeus).
- F: 50+, 0; NC: 0 of 1.

Common Grackle, *Quiscalus quiscula* (Linnaeus).
- F: 2, 1; NC: 0 of 12.

- F: 6, 1; NC: 0 of 7.

- F: 45, "several times"; NC: 1 of 18.

The nest card record is of a nest found by D. D.

### Table 1. List of most common passerines in Iowa based on Breeding Bird Survey (FWS) data (Dinsmore 1981).

<table>
<thead>
<tr>
<th>Species</th>
<th>Birds/ route</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>House Sparrow</td>
<td>176.4</td>
<td>Not host due to habitat, cavity nest</td>
</tr>
<tr>
<td>Red-winged Blackbird</td>
<td>172.0</td>
<td></td>
</tr>
<tr>
<td>Western Meadowlark</td>
<td>69.2</td>
<td></td>
</tr>
<tr>
<td>Dickcissel</td>
<td>62.0</td>
<td></td>
</tr>
<tr>
<td>European Starling</td>
<td>60.2</td>
<td>Not host due to habitat, cavity nest</td>
</tr>
<tr>
<td>Common Grackle</td>
<td>57.0</td>
<td>Not host due to</td>
</tr>
<tr>
<td>Barn Swallow</td>
<td>32.2</td>
<td>Not host due to habitat or nest location</td>
</tr>
<tr>
<td>American Robin</td>
<td>31.5</td>
<td>Not host due to ?; ejector</td>
</tr>
<tr>
<td>Common Yellowthroat</td>
<td>24.7</td>
<td></td>
</tr>
<tr>
<td>American Crow</td>
<td>22.6</td>
<td>Not host due to large size</td>
</tr>
<tr>
<td>BROWN-HEADED COWBIRD</td>
<td>20.5</td>
<td></td>
</tr>
<tr>
<td>Song Sparrow</td>
<td>17.6</td>
<td></td>
</tr>
<tr>
<td>Eastern Meadowlark</td>
<td>15.6</td>
<td></td>
</tr>
<tr>
<td>Horned Lark</td>
<td>14.7</td>
<td></td>
</tr>
<tr>
<td>House Wren</td>
<td>14.6</td>
<td>Not host due to cavity nest</td>
</tr>
<tr>
<td>Vesper Sparrow</td>
<td>12.8</td>
<td></td>
</tr>
<tr>
<td>American Goldfinch</td>
<td>11.6</td>
<td>Not host due to late season nesting</td>
</tr>
</tbody>
</table>
Koenig in Van Buren County on 29 May 1979.


In Iowa, Savage (1894a; Anderson 1907) described a nest with a burried cowbird egg. Lowther (1983) found 2 parasitized nests in Dickinson County.

Least Flycatcher, *Empidonax minimus* (Baird and Baird). F: 39, 0; NC: 0. of 0. Iowa’s mention in Friedmann’s account was based, probably, on R. M. Anderson’s host list (in Savage 1894a) and his later work (Anderson 1907).


Eastern Kingbird, * Tyrannus tyrannus* (Linnaeus). — F: 24, 1; NC: 0 of 20. Savage (1894a:36, 1897:6) and Anderson (1907:299-300) listed Eastern Kingbirds as cowbird hosts. Lowther (1983) reported on one instance of parasitism in which the cowbird egg was ejected — a usual practice of kingbirds (Rothstein 1975) — and the nest deserted.

Horned Lark, *Eremophila alpestris* (Linnaeus). — F: 36, 1; NC: 0 of 2. Savage (1894a:34) noted that he would “often find one or more” cowbird eggs in nests he found. His later host list (Savage 1897) mentioned larks again. One egg set (WVFZ 74559) taken 4 May 1896 had 3 host and 2 cowbird eggs.

Barn Swallow, *Hirundo rustica* Linnaeus. — F: 9, 0; NC: 0 of 185. J. V. Crone (in Savage 1894a:36) listed Barn Swallows as a cowbird host, a record repeated by Anderson (1907:299).


House Wren, *Troglodytes aedon* Vieillot. — F: 6, 3; NC: 1 of 86. Friedmann included J. Hodges’ report of wrens feeding a “recently fledged” cowbird young on 12 July 1947 in Scott County. The nest card record is of a wren nest found in Palo Alto County by S. W. Pitt on 15 June 1978.

Blue-gray Gnatcatcher, *Polioptila caerulea* (Linnaeus). — F: 40, “frequently”; NC: 0 of 4. Iowa records include a specific instance reported by Savage (1893) of a nest with 4 gnatcatcher and 1 cowbird eggs on 17 May 1893. Savage (1894a, 1897) included this species in his later host lists.

Eastern Bluebird, *Sialia sialis* (Linnaeus). — F: 50, 0; NC: 0 of 89. Keys and Williams (1888) listed bluebirds as a cowbird host as did J. E. Law (in Savage 1894a). G. Black found 5 nestboxes parasitized (Black 1966, Brown 1965). There are 2 museum egg sets of this species which include cowbird eggs — one from Dallas County (taken by J. E. Law; WVFZ 92683), the other from Hardin County (UAM 57-7-179).


Wood Thrush, *Hylocichla mustelina* (Gmelin). — F: 216, “several times”; NC: 0 of 2. Keys and Williams (1888) called this species “a favorite” host and specifically mentioned 6 parasitized nests. Stoner (1919, 1949) recorded another 12 instances of parasitism in Iowa. Green (1887) stated that half of the nests he found were parasitized but gave the contents of only 1 (with 2 thrush and 6 cowbird eggs). Savage (1894a, 1897) and Polderboer (1939) just listed Wood Thrushes as cowbird hosts.

American Robin, *Turdus migratorius* Linnaeus. — F: 44, 0; NC: 1 of 205. One Iowa record was of a robin that reared a young cowbird (Hodges 1949). The nest card record was from D. L. Prach who found a parasitized robin’s nest in Lucas County on 14 May 1980. Both Savage (1894a, 1897) and Gabrielson (1914) listed robins as cowbird hosts but provided no specific details. American Robins usually eject cowbird eggs (Rothstein 1975).

Gray Catbird, *Dumetella carolinensis* (Linnaeus). — F: 39, 2; NC: 3 of 97. J. E. Law (in Savage 1894a) listed catbirds as cowbird hosts as did Polderboer (1939). Johnson and Best (1980) found 1 nest of (a total of 37) parasitized; this egg was ejected by the catbird, a usual practice of Gray Catbirds (Rothstein 1975). Dix (1936) reported on a parasitized catbird nest from which the cowbird egg was ejected.

Brown Thrasher, *Toxostoma rufum* (Linnaeus). — F: 79, “several times”; NC: 3 of 113. Baird et al. (1875) mentioned a thrasher nest that reared a cowbird; another nest that produced a cowbird was described by Lowther (1983). Keyes and Williams (1888), J. E. Law (in Savage 1894a), Stoner (1919) and Polderboer (1939) reported Brown Thrashers as cowbird hosts. Brown Thrashers usually eject cowbird eggs (Rothstein 1975).

Cedar Waxwing, *Bombycilla cedrorum* Vieillot. — F: 80, “several times”; NC: 1 of 8. The single nest card report by A. B. Thiermann added this species to Iowa’s list of cowbird hosts. The nest was found on 25 June 1981 in Story County.

Bells Vireo, *Vireo bellii* Audubon. — F: 147, “infrequently”; NC: 0 of 1. Bennett (1917) found 7 of 13 nests parasitized and Roseine (1941) noted 4 of 5 nests to have cowbird eggs. Stoner (1919) and Carter (1957a) also recorded Bell’s Vireo as a cowbird host. One museum record exists of which I am aware (UAM 57-7-120).

Yellow-throated Vireo, *Vireo flavifrons* Vieillot. — F: 11, “frequently”; NC: 0 of 1. Savage (1894b) and Crone (1895) described parasitized nests; Anderson (1907, in Savage 1894a) included this vireo in his host list.


Red-eyed Vireo, *Vireo olivaceus* (Linnaeus). — F: 875, “frequently”; NC: 0 of 1. Keyes and Williams (1888) vaguely referenced this host. Keyes (1888), J. E. Law (in Savage 1894a), Savage (1897) and Carter (1957b) noted Red-eyed Vireos as hosts. C. C. Smith (in Crone 1895:41) stated that “With the exception of the Chipping Sparrow, perhaps no bird is so imposed upon [by cowbirds] as this Vireo.” In his account of Red-eyed Vireos, Crone (1895) mentioned the contents of 7 parasitized nests: 4 vireo and 1 cowbird egg (3 times), 3 and 1, 3 and 2, 3 and 3, and a nest with 2 and 1 on 12 June 1895 then 2 and the next day. Two Iowa records are in museum collections (UAM 57-7-122, with 3 vireo and 1 cowbird egg, and PM E495:9).

Blue-winged Warbler, *Vermivora pinus* (Linnaeus). — F: 52, “several times”; NC: 0 of 0. Iowa’s record of this warbler serving as a host is of a single nest from Henry County, taken on 2 June 1894, with 3 warbler and 2 cowbird eggs (Savage 1893, 1894a). Yellow Warbler, *Dendroica petechia* (Linnaeus). — F: 260, “frequently”; NC: 6 of 50. Keyes and Williams (1888) indicated that Yellow Warblers had as many as 3 cowbird eggs. C. R. Ball (in Savage 1894a:36) thought “the Yellow Warbler is imposed on the mos[t].” J. V. Crone (in Savage 1894a) and Savage (1897) described this warbler as “often” serving as hosts to the Brown-headed Cowbird. Gabrielson (1914) and Stoner (1919) mentioned parasitized nests; the University of Arkansas Museum has 2 parasitized egg sets from Iowa.

Studies on Yellow Warblers in Dickinson County (Kendeigh 1941, Lowther 1983, Schrantz 1943) found 22 parasitized nests out of 82 examined. Warblers buried cowbird eggs in 17 of these nests; 5 cowbird young were reared from 4 nests.

Chestnut-sided Warbler, *Dendroica petechia* (Linnaeus). — F: 103, “frequently”; NC: 0 of 0. Two parasitism records from Poweshiek County exist. One is of a nest taken on 22 May 1886 by Lynds Jones with 3 warbler and 1 cowbird eggs (WVFZ 136088). More recently Koenig (1983) found a nest of this species on 21 July 1983 which contained a half grown nestling cowbird.

Black-and-white Warbler, *Mniotilta varia* (Linnaeus). — F: 40, “several times”; NC: 0 of 0. I could not find any specific Iowa
references of this warbler as a cowbird host although Friedmann (1963) did mention "Iowa."

American Redstart, Setophaga ruticilla (Linnaeus). — F: 200, "frequently"; NC: 0 of 4. Specific Iowa records include Giddings (1897) and Savage (1894a, 1897).

Prothonotary Warbler, Protonotaria citrea (Boedlaert). — F: 54, 0; NC: 0 of 0. Norris (1890) reported on 19 parasitized nests out of 41 taken at Burlington, Iowa. Contents of these 41 nests are as follows: 6 warbler and 0 cowbird eggs (11 nests), 7 and 0 (10), 8 and 0 (1), 4 and 4 (1), 3 and 5 (1), 6 and 1 (12), and 7 and 1 (5). [Walkinshaw (1953) gave a mean clutch size of 5.1 eggs, range 3 to 7 eggs, for Prothonotary Warblers in Michigan. E. AMNH 4854 is a set taken at Muscatine with 3 warbler and 1 cowbird eggs.]

Wood-eating Warbler, Melanocorypha americana (Gmelin). — F: 37, 2; NC: 0 of 0. Savage (1897) recorded this warbler as a cowbird host.

Ovenbird, Seiurus aurocapillus (Linnaeus). — F: 280, +, "frequently"; NC: 0 of 0. Jones (1888) reported that "never yet has a nest been found here [near Grinnell] but [with] two or more Cowbird's eggs ..." Both Keyes and Williams (1888) and Savage (1894a, 1897) listed Ovenbirds as "often" parasitized. Marceau (1891) found 1 nest 25 May 1891 with 1 Ovenbird and 7 cowbird eggs.

Louisiana Waterthrush, Seiurus ludovicianus (Vieillot). — F: 86, +, "frequently"; NC: 1 of 3. Friedmann (1963) actually listed the Northern Waterthrush (Seiurus noveboracensis [Gmelin]) as a cowbird host in Iowa, but this citation is a repetition of an error in identification of waterthrushes by Savage (1897) and continued by Anderson (1907). DuMont (1933: 128) stated that breeding records of Northern Waterthrush in Iowa "must be considered misidentifications of Seiurus motacilla." W. Savage (in Savage 1894a: 37) found a nest with 2 waterthrush eggs and 6 of the Brown-headed Cowbird. The nest card record is of a nest found on 13 June 1980 in Webster County by A. J. Bannahan.

Kentucky Warbler, Oporornis formosus (Wilson). — F: 150, "several times"; NC: 0 of 0. Two specific Iowa records were from Jackson County (Giddings 1897) and from Lee County (DuMont 1936).

Common Yellowthroat, Geothlypis trichas (Linnaeus). — F: 300, +, "frequently"; NC: 11 of 35. Specific mention of Iowa records include J. E. Law (in Savage 1894a), Savage (1897), Shaver (1918), Preischold (1958), Lowther (1983), and 1 museum record (WFVZ 105541).

Hooded Warbler, Wilsonia citrina (Boedlaert). — F: 57, 2; NC: 0 of 0. One set of eggs (WFVZ 105551), taken 24 June 1894 in Lee County, added this species to Iowa's list of cowbird hosts (Currier 1894; see also DuMont 1936).

Yellow-breasted Chat, Icteria virens (Linnaeus). — F: 183, +, "frequently"; NC: 0 of 3. Chats are on Savage's (1897) host list and have been reported as cowbird hosts by Peasley and Peasley (1957) and Burk (1962).

Scarlet Tanager, Piranga olivacea (Gmelin). — F: 77, "several times"; NC: 0 of 0. Keyes and Williams (1888) declared that this species was almost invariably parasitized and Savage (1894a: 63) described tanagers as grossly imposed upon by cowbirds. J. E. Law (in Savage 1894a: 56), Savage (1897) and Stephens (1938) reported on parasitized Scarlet Tanager nests. Keyes (1884) described a nest he found with a cowbird egg buried in the lining.

Northern Cardinal, Cardinalis cardinalis (Linnaeus). — F: 159, "several times"; NC: 13 of 73. Several references provide Iowa records of this species being a cowbird host (Polderboer 1939, Steffen 1945, Stoner 1919, Wendelburg 1941, Youngworth 1959). A single museum record exists (UNI 68.9.50.142).

Bobolinks as a cowbird host. Lowther (1983) described 1 parasitized Bobolink nest (out of 3 found) in northwestern Iowa.

Red-winged Blackbird, *Agelaius phoeniceus* (Linnaeus). — *F*: 500 +, 1; *NC*: 67 of 341. Redwings were listed as cowbird hosts by Anderson (in Savage 1894a, 1907) and Gabrielson (1914). Parsons (1945) found parasitized nests. Krupa (1978) found 3 of 127 marsh nests and 8 of 28 upland nests to have been parasitized. Lowther (1983) reported 52 of 98 redwing nests were parasitized in what could be characterized as upland prairie habitats; cowbirds were reared in 6 of these nests. There is 1 museum set from Iowa (USNM 35267).

Eastern Meadowlark, *Sturnella magna* (Linnaeus). — *F*: 87, yes; *NC*: 5 of 17. Savage (1897) included this meadowlark in his host list.

Western Meadowlark, *Sturnella neglecta* Audubon. — *F*: 24, 0; *NC*: 2 of 11. Gabrielson (1914) gave only vague reference of parasitism of this species.

Common Grackle, *Quiscalus quiscula* (Linnaeus). — *F*: 12, 0; *NC*: 1 of 46. Keyes and Williams (1888) listed grackles as a cowbird host but gave no details. The nest card record is of a nest found by D. W. Jackson on 10 May 1979 in Lucas County.

Orchard Oriole, *Icterus spurius* (Linnaeus). — *F*: 35, "several times"; *NC*: 0 of 4. J. V. Crane (in Savage 1894a:42) described Orchard Orioles as "imposed[d]" upon. R. M. Anderson (in Savage 1894a:36) and Savage (1897) included this species in later host lists. Youngworth (1946) noted an instance of parasitism and G. Black reported an oriole nest parasitized by a cowbird when the host young was 2 days old (Brown 1972). Four parasitized museum sets exist from Iowa (WFVZ 115770, WFVZ 116524, UAM 57-7-119, USNM 44495).


Pine Siskin, *Carduelis pinus* (Wilson). — *F*: 14, 2; *NC*: 1 of 2. Dales and Bennett (1929) recorded an Iowa record of parasitism of Pine Siskins. The nest card record is of a siskin nest found by J. J. Dinsmore in Story County on 4 May 1982.

American Goldfinch, *Carduelis tristis* (Linnaeus). — *F*: 82 +, "several times"; *NC*: 3 of 55. Crooks and Hendrickson (1953) mentioned 1 parasitized goldfinch nest was found during their sparrow study. The 3 nest card records describe nests first found on 28 June 1977 by M. P. Mann in Emmet County, 24 July 1980 by R. Hay in Cerro Gordo County, and 28 July 1980 by J. White in Cerro Gordo County.

ACKNOWLEDGEMENTS

I appreciate the help from the following curators and institutions in examining their collections for egg sets from Iowa: L. F. Kiff (Western Foundation of Vertebrate Zoology, WFVZ), N. G. McCartney (University of Arkansas Museum, UAM), J. Bull (American Museum of Natural History, AMNH), B. A. Sabo (United States National Museum, USNM), J. Hall (Purman Museum, Davenport, PM), P. Sauer (University of Northern Iowa Museum, UNI), and M. A. Taylor (Field Museum of Natural History, FMNH). David A. Newhouse, nongame biologist for the Iowa Conservation Commission; was most helpful in providing information on 152 parasitized nests (of 3096 total nests) on file in Iowa’s Nest Record Card Program. Reviews by James J. Dinsmore and Stephen I. Rothstein were most helpful.

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BROWN-HEADED COWBIRD HOSTS


APPENDIX.

List of species recorded as cowbird hosts (Friedmann 1963, Friedmann et al. 1977) which breed in Iowa (Records Committee of I.O.U. 1982, Dinsmore et al. 1984) but have not been recorded as hosts in Iowa.

*indicates species known to have reared cowbird young.

Blue-winged Teal, Anas discors Linnaeus, F: 1,0, NC: 216; Virginia Rail, Rallus limicola Vieillot, F: 1,0, NC: 7; Killdeer, Charadrius vociferus Linnaeus, F: 2,0, NC: 9; Spotted Sandpiper, Actitis macularia (Linnaeus), F: 5,0, NC: 0; Upland Sandpiper, Bartramia longicauda (Bechstein), F: 1,0, NC: 0; Wilson’s Phalarope, Phalaropus tricolor (Vieillot), F: 3,0, NC: 0; Black-billed Cuckoo, Coccyzus erythropthalmus (Wilson), F: 5,0, NC: 37; Yellow-billed Cuckoo, Coccyzus americanus (Linnaeus), F: 6,0, NC: 33; Ruby-throated Hummingbird, Archilochus colubris (Linnaeus), F: 12,0, NC: 0; Red-headed Woodpecker, Melanerpes erythrocephalus (Linnaeus), F: 1 + 7,0, NC: 3; Say’s Phoebe, Sayornis saya (Bonaparte), F: 6,0, NC: 1; Western Kingbird, Tyrannus tyrannus Say, F: 4,0, NC: 0; Scissor-tailed Flycatcher, Tyrannus forficatus (Gmelin), F: 4,1, NC: 0; Purple Martin, Progne subis Linnaeus, F: 12,0, NC: 3; Tree Swallow, Tachycineta bicolor (Vieillot), F: 1 + 1, NC: 6; Bank Swallow, Riparia riparia (Linnaeus), F: 1,0, NC: 2; Cliff Swallow, Hirundo pyrrhonota Vieillot, F: 8,0, NC: 0; Blue Jay, Cyanocitta cristata (Linnaeus), F: 4,0, NC: 26; American Crow, Corvus brachyrhynchos Brehm, F: 5,0, NC: 2; Tufted Titmouse, Parus bicolor Linnaeus, F: 7,0, NC: 0; White-breasted Nuthatch, Sitta carolinensis Latham, F: 7,0, NC: 1; Brown Creeper, Certhia americana Bonaparte, F: 1,1, NC: 0; Carolina Wren, Thryothorus ludovicianus (Latham), F: 19,6, NC: 0; Bewick’s Wren, Thryomanes bewickii (Audubon), F: 16,1, NC: 1; Northern Mockingbird, Mimus polygloitus (Linnaeus), F: 8,0, NC: 2; European Starling, Sturnus vulgaris Linnaeus, F: 3,1, NC: 1; White-eyed Vireo, Vireo griseus (Boddaert), F: 59, “frequently”, NC: 0; Golden-winged Warbler, Vermivora chrysoptera (Linnaeus), F: 37, “several times”, NC: 0; Northern Parula, Parula americana (Linnaeus), F: 12,0, NC: 0; Yellow-throated Warbler, Dendroica dominica (Linnaeus), F: 1,0, NC: 0; Prairie Warbler, Dendroica discolor (Vieillot), F: 35, “several times”, NC: 0; Cerulean Warbler, Dendroica cerulea (Wilson), F: 12,1, NC: 0; Summer Tanager, Piranga rubra (Linnaeus), F: 19, “several times”, NC: 0; Clay-colored Sparrow, Spizella pallida (Swainson), F: 50, “frequently”, NC: 0; Yellow-headed Blackbird, Xanthocephalus xanthocephalus (Bonaparte), F: 16,0, NC: 32; House Sparrow, Passer domesticus (Linnaeus), F: 14,0, NC: 13.

Linnaeus Soc. N.Y. 4.


1959. From a bird observer’s notebook. Iowa Bird Life 29:10-