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The Evening Grosbeak in Mississippi

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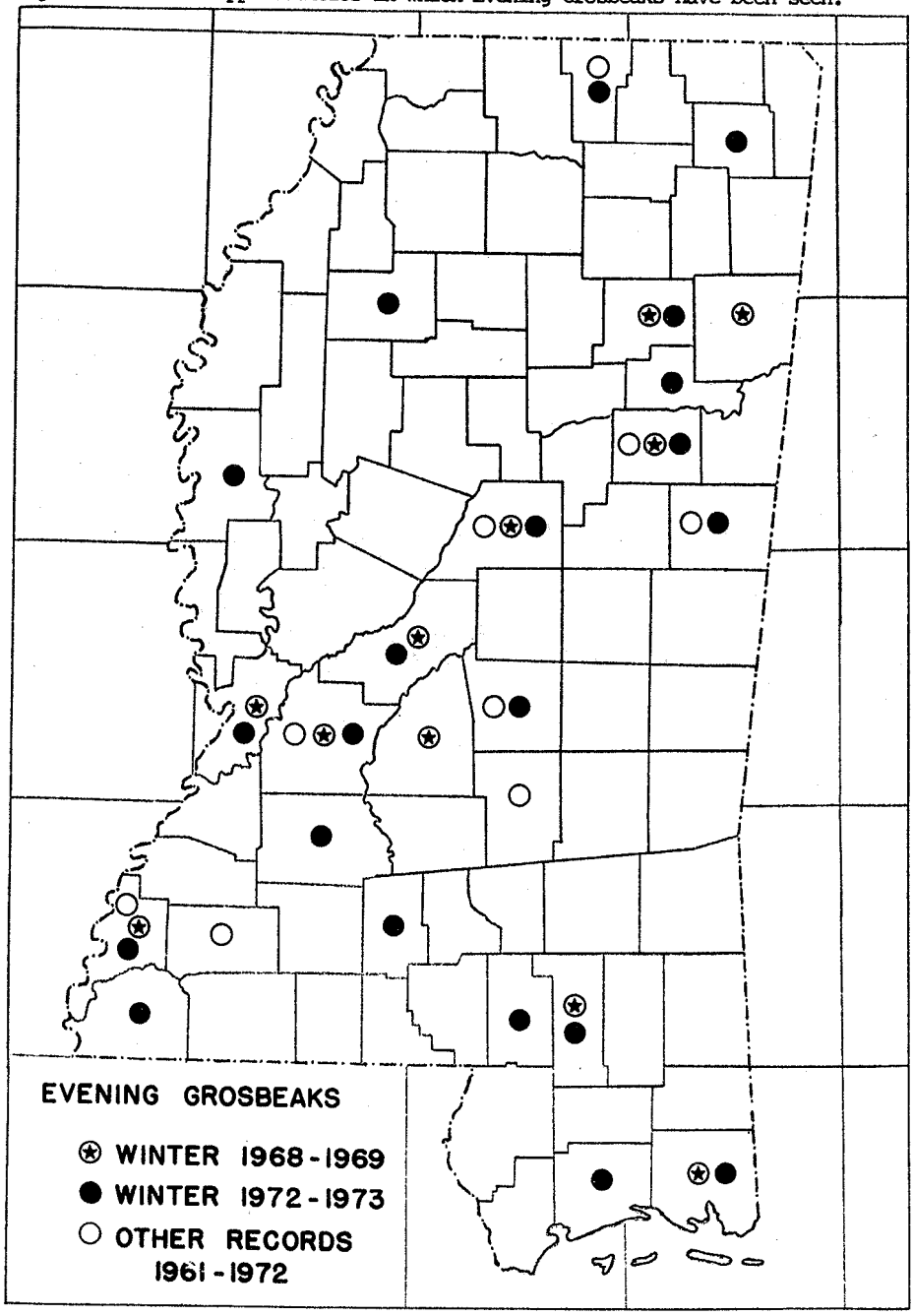
At the end of the 19th century the evening grosbeak (Hesperiphona vespertina) was reported spreading both its breeding and wintering range eastward from north central North America (Speirs, 1968). This expansion continued through the early decades of the twentieth century such that it is now looked on as a regular winter visitor in New England. Between 1950 and 1955 Evening Grosbeaks began invading Georgia in the winter (Speirs, 1968) and since about 1956 they have been rare to locally common in Alabama in the winter (Imhof, 1962). The first record of the species in Mississippi appears to be 8 birds seen from 17 to 19 December 1961 in Franklin County by E. G. Sullivan (1962). On 22 February 1962 B. E. Gandy collected the first specimen record for the state in Jackson (Hinds Co.)(Gandy, 1962a). Small flocks were seen in Jackson through April, and one female was reported as late as 2 May 1962 (Gandy, 1962b).

Evening Grosbeaks weren't reported in the state again until February 1966 (Turcotte, 1966a) when 10-15 were seen in Jackson and flocks (Turcotte, 1966b) were reported at Kosciusko (Attala Co.) and Raleigh (Smith Co.). Turcotte (1969) reported a "spectacular invasion" of Evening Grosbeaks into Mississippi during the winter of 1968-1969 (Figure 1). Grosbeaks were reported from Adams, Attala, Benton, Hinds and Oktibbeha counties during the winter of 1969-1970 (Turcotte, 1970; Morgan, 1971; Coffey, 1971) and from Benton, Hinds, Noxubee, Oktibbeha, and Scott counties during the winter of 1971-1972 (Coffey, 1972; Hanson, 1972; Turcotte, 1972a and b).

The winter of 1972-1973 brought another spectacular invasion of Evening Grosbeaks. In order to document the distribution and relative magnitude of the invasion in different parts of the state I distributed a questionnaire to M.O.S. members and friends. Forty-two persons responded to the survey, documenting the occurrence of the species in every part of

Figure 1. Mississippi counties in which Evening Grosbeaks have been seen.



the state (Figure 1). Greatest numbers of birds were reported in the east-central part of the state, while very few were seen in the Mississippi delta (Table 1). The earliest and latest records thus far for the species in Mississippi were recorded during this invasion. John T. Morrow observed a small flock near Starkville in Oktibbeha County on 23 November, and Lewis (1972) reported 12-15 Evening Grosbeaks on the Marion County Game Management area on 24 November. I had one individual at a feeder in Oktibbeha County as late as 10 May.

Most respondents to the survey reported gros - beaks eating sunflower seeds at feeders and I can't help but wonder if the large number of Mississippi- ans feeding the birds didn't have an influence on the numbers of grosbeaks we had and perhaps also on the length of time they were with us. On the other hand, several respondents listed natural foods used by the species. These foods included buds of black cherry, plum, elm, and oak, berries of wax myrtle, and seeds of hackberry, American elm, Chinaberry, sweetgum, box elder, and grass. Sullivan (1962) also reported the species eating the seeds of blue beech. Speirs (1968) suggests that the most important native food of the Evening Grosbeak is the fruit of the maple trees, especially that of the box elder, Chamberlain (1952), on the other hand, reported that pine seeds were the main food of grosbeaks during the winter invasion of North Carolina in 1952. Many persons responding to our questionnaire associated Evening Grosbeaks with pines - though none mentioned them eating pine seed. Throughout the winter I regularly saw large flocks foraging on the ground under loblolly pines at Noxubee National Wildlife Refuge and assume they could have been feeding on pine seeds. If pine seeds are important in the natural winter diet of the Evening Grosbeak, this may explain the paucity of records from the Mississippi delta where there are few pines and, indeed, may explain why the winter of 1972-1973 was an invasion year. As I reported earlier (Jackson, 1973), the pine cone crop failed in the northern part of the continent in 1972.

Mrs. F. C. Hathorn of Hattiesburg kept careful notes on a flock of nearly 100 grosbeaks that roosted in an oak tree in her yard every night. She noted

Table 1. Summary of data on the distribution of Evening Grosbeaks in Mississippi, winter 1972-1973.

County	Number of Observers	Range in Number of Birds Seen	Range in Dates of Observation
Adams	1	4-60	23 Dec.-19 Apr.
Attala	3	15-40	7 Feb.-6 May
Chickasaw	1	many	1 Feb.-late Apr.
Clay	1	49	12 Jan.
Copiah	1	5-40	21 Jan.-5 Apr.
Forrest	6	0-100	4 Dec.-5 May
Harrison	4	0-8	26 Dec.-18 Apr.
Hinds	7	0-30	3 Jan.-2 May
Jackson	2	0-21	8 Jan.-11 Apr.
Lamar	1	24	12 Dec.-1 May
Lawrence	1	3-30	21 Jan.-17 Feb.
Madison	1	5	7 Apr.
Marion	1	12-15	24 Nov.
Noxubee	2	4-200	25 Dec.-23 Apr.
Oktibbeha	3	24-200	23 Nov.-10 May
Prentiss	1	16-30	7 Jan.-30 Apr.
Scott	1	50	Dec.-23 Apr.
Tallahatchie	1	8	Feb.
Warren	1	30	21 Feb.-20 Apr.
Washington	2	1-2	29 Jan. and 14 Feb. only
Wilkinson	1	18-30	no dates given

that they were usually quiet after dark, but that well after dark on the evening of 15 April the birds were "quite noisy". The next day about half of the birds were gone. The same "noisy chattering" occurred again in the early evening of 22 April and the next day only about 12 birds remained. Evening Grosbeaks, like many of our small birds,migrate at night and stop to feed and rest during the day. Data from all areas of the state indicate that most Evening Grosbeaks left during the third week of April and that only a few individuals lingered until the first week in May.

The report in Turcotte (1969) of adults feeding young in Jackson between 20 and 26 April refers most likely to a case of courtship feeding. Downs (1958) describes a female Evening Grosbeak soliciting food from a male by "'flirting' her tail (a quick spreading and closing of the tail), bobbing her head and swinging her body slightly in front of the male." Such behavior is similar to the begging of a young bird and could be easily misinterpreted by a person unfamiliar with courtship feeding. Speirs (1968) notes that Evening Grosbeaks are late nesters and frequently stay in the vicinity of feeding stations until May. It does seem likely, in view of the range extension of the species eastward earlier in this century, that it may eventually become a breeding bird in the montane areas of Alabama. The Evening Grosbeak in Mississippi must for the present be considered an irregular winter resident that may be found anywhere in the state during an "invasion" year.

Acknowledgments

The collection of the data presented here was only possible because of the cooperation of those who completed my questionnaire. I sincerely appreciate their help.

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Observations On The Nesting Ecology of Barn Swallows

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Introduction

The purpose of this paper is to report on a brief study of the nesting ecology of the Barn Swallow (Hirundo rustica) in Mississippi. Specific intentions were to make observations which might aid in a comprehensive study of Barn Swallows nesting under bridges in Oktibbeha and Lowndes County in Mississippi. This study included forty-one pairs of nesting birds; plus, at the time of conclusion of the study period, 68 nestlings. Field observations were taken between May 4 and May 14,1972,and included a total of twenty hours of actual field work.

Methods and Techniques

Thirteen bridges were selected for study. Each nest was numbered and individual records kept.Observations were taken every two or three days. An aluminum pole with an attached mirror was used to view the inside of nests. No attempts were made to record the presence of adults on the nest (unless nest was solitary, rather than colonial). In certain instances, nests were constructed with top of the cup very near the bottom of the bridge, making placement of

the mirror difficult.Additional factors that limited observations were the height of the nests above the ground and inadequate light. In addition, swollen streams after rains made footing difficult.Feathers covering the nest and its contents,and the dark color of hatched birds,made counting difficult in some instances. In these cases, where observations were incomplete,the only data recorded were the presence of eggs or young.

Observations

Four of thirteen bridges examined had no signs of nesting barn swallows. These bridges fit into one or more of the following categories:(1) small, low bridges, (2) vegetation obstructing the entrance to the underside of the bridge, and (3) were over very small or normally dry creeks.Three bridges examined had evidence of nesting birds, but could not easily be studied due to the size and depth of the streams. In the above seven bridges, no further observations were made. Six bridges had nesting Barn Swallows that were easily observable.

Nests are cup shaped and attached to the vertical surfaces of the bridge structure. They are either built on a supporting structure such as a large bolt, on the flaring of the bottom of the support beams, or in a corner where beams cross. When the nest is on a vertical surface only, it is normally located very near(2.5 - 4.0 centimeters)the bottom structure of the bridge.

Egg-Laying

Five nests observed had adults in the process of egg-laying. Two of these had one egg each at the completion of the study period, and appeared abandoned.

Clutch Sizes

Thirty-four pairs of adults were observed to have completed egg-laying during the time the study was in progress.Twenty-two nests had five eggs;five nests had three eggs;three nests had six eggs;two nests had four eggs;two nests had one each,both appeared abandoned.

Brood Success

Twelve pairs of adults were observed to have completed egg-laying and have eggs hatch during the period of study.

Out of a total of fifty-seven eggs, forty young hatched, for 70.1% hatching success. In addition, seven nests were observed with young only. These, when totaled with the brood success figures, gives a total of sixty-eight nestlings, an average of 3.6 young per nest.

Discussion

Bridges serve as an ideal nesting site for Barn Swallows. Highway bridges provide all requirements for nesting sites listed by Samuel (1971). These are (1) a vertical substrate for nest building, (2) open areas nearby for foraging, and (3) mud for nest construction. In addition to the above, the underside of bridges is rarely disturbed by man. Entrance and exit would be facilitated where there is little vegetation to block flight. These facts are supported by the lack of Barn Swallows nesting under (1) small bridges, (2) bridges with sides covered with vegetation, and (3) bridges with small or no streams. Another factor is that eighty-one of eighty-eight nests located were directly over water, with seven over land. Related to this is a tendency to construct nests with the greatest possible vertical distance above the ground or water.

A point which needs further investigation is reuse of nests. Samuel (1971) states that over half of the old nests are reused. This would explain about half (twenty) of the unused nests. An accumulation of old nests over a period of years may explain the large number of unused nests that I found. Falling of nests is probably caused by shaking of bridges by vehicles. The large number of unused nests may indicate that birds tend not to reuse nests under bridges.

Nest construction is the same as reported by other workers (see Bent, 1963). An interesting fact concerns nests constructed very near to the bottom of the bridge. Wood (1937) observed young Barn Swallows perched on the rim of the nest exercising wings.

Exercising wings would be difficult in nests located near the bottom of bridges. Water beneath the nests, and lack of perching sites under the bridge makes leaving the nest hazardous.

The following are recommendations for further study. (1) Use of a convex mirror to aid in viewing the entire contents of nests. This would be extremely useful in nests located near to the bottom of the bridge. (2) Use of a light to illuminate nests on dark, cloudy days. This would especially aid in counting newly hatched birds, which are difficult to distinguish. (3) A system of marking nests to aid in determining the number of nests reused, the number of birds that have second broods, and the effect of the shaking of bridges on the nests. (4) A good pair of boots to keep the sewerage off.

Summary

Thirteen bridges were selected for study. Six were suitable for further study of nesting ecology. A total of eighty-eight nests were observed, forty-three of these being active.

Clutch size varies from three to six eggs, with five being commonest. Hatching success averages 70.1% for all eggs observed. This included two nests that had a cluth of six eggs with 41% success. Success for nests with three to five eggs averages 78%, which is in agreement with Samuel (1971).

My appreciation is expressed to Dr. Jerome A. Jackson of the Mississippi State University Department of Zoology, who suggested this study. His comments and advice were invaluable.

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On Behavior of the Horned Lark

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On March 12, 1973, accompanied by my wife, Annie Cook, I went to Yazoo County and we observed at least five or six different pairs and several individual horned larks (Erimophila alpestris) in Joe Stoner's soybean fields. The open field area comprised at least 1000 acres, had been fall plowed and fallowed after harvest and was situated about one mile east of Holly Bluff, Mississippi. The day was windy. No aerial singing activity was heard. After several flushings one male did sing from a perch on a clod. I recorded on tape a short bit of song. Playback resulted in more singing and territorial response and a closer, short recording of the ground song was made. Because of high wind and noise I decided to abandon further recording efforts.

We returned to the same area on March 19. The day was clear with intermittent, slight wind. We saw several individual or paired larks before playback of previously recorded song bits had any effect. Most of the fields had been disced and rowed during the previous week. As we drove along turnrows we made frequent stops. At the edge of a bare but not recently plowed field we observed an aerial battle between two male larks. They would rise from the ground, fighting in the air and climbing to perhaps 50 feet before dropping to the ground. This was repeated several times. There was no fighting on the ground but wing-dropping, tail-spreading, bluffing and retreating actions were responses made by both males. This was obviously territorial defense behavior.

The previously made recording was played and this time only one of the males responded. He sang first from a clod at a distance, then flew nearer with a fluttering flight. Continued playback caused this male to approach the recorder and automobile. His response was dropping and fluttering of the wings, spreading the tail and frequently pecking the ground

with intermittent song interspersed with a single call note and double call notes. Response continued until I was able to assemble the recorder and microphone. I was able to record a series of song and calls made from the ground. The response to playback continued in the same manner and the bird came closer, often within 10 feet of the microphone. Wind noise subsided and I obtained a good sequence of 5 or more intermittent song and call notes. After ceasing recording and continuing the playback, the birds response behavior continued as long as I played the calls from within the car and he became agitated, showing little fear; almost no fear of the automobile as he approached one side less than 10 ft. away. The bird then made one aerial flight song as a response but rose no higher than 100 feet for perhaps 15 seconds before dropping back to earth.

Alongside another turnrow we sighted another pair of larks. The female was feeding along a wet furrow beside the turnrow. She seemed totally unconcerned and allowed an approach within 30 ft. of the car. Both birds were studied at close range with binoculars. The female was very much lighter-colored than the male. A playback of the recordings produced responses similar to the other male but no aerial flight was made. The female showed no concern and continued her feeding activity for several minutes.

No effort was made to locate nests. The males could have been photographed easily from outside the car while responding to the recorded song playback.

Breeding records for the horned lark have been recorded earlier in 1961 in this same field by Phares and Turcotte, reported in MOS Newsletter, Vol. 6, No. 3, page 7 and Vol. 6, No. 3, page 5.

Based on these and similar observations made before and since I conclude that horned larks establish and defend ground territories by aerial fighting, demonstrative actions on the ground and by the use of aerial and ground song and call notes.

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CRANE ENDANGERED

Mississippi Sandhill Crane

By: W. H. Turcotte

The 1973 edition of Threatened Wildlife of the United States lists the Mississippi Sandhill Crane as "nearing extinction because of a very small and restricted population and deteriorating habitat." Present distribution is in Jackson County near Ocean Springs and Fontainebleau between the PascagoulaRiver and the Jackson-Harrison County line north to Bluff Creek. Estimated numbers are between 38 and 40 birds remaining in the wild, with nine in captivity at the Patuxent Wildlife Research Center in Maryland.

Mississippi Sandhill cranes have been described as a subspecies--Grus canadensis pulla(Aldrich).The birds are the same size as the Florida sandhill cranes but darker colored,the darkest of all the sandhill cranes.

The birds are declining chiefly because of reduction of suitable habitat (which is semi-open and wet pine savannah)by changing land use including drainage, planting of trees, suburban development and highway building.

Protective measures have been taken by the Bureau of Sport Fisheries and Wildlife by rearing this subspecies in captivity from eggs taken from wild nests over a period of the past six years.One egg is taken from a nest which usually contains two eggs. Not more than four or five eggs have been taken in any one year.Acquisition and restoration of habitat in the present range and adjoining areas has been proposed by the Bureau of Sport Fisheries and Wildlife. It is hoped that the captive rearing program will be expanded to produce stock for subsequent liberation. No reproduction has occurred to date among captive Mississippi cranes at the Patuxent Center.

State Game and Fish Commission biologists have cooperated with the Bureau by participation in the crane research and propagation projects since they were initiated. Reprinted from Marine Briefs, Vol. 2, No. 6, p. 3.

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