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NESTING OF HENSLOW'S SPARROW IN OSAGE COUNTY, KANSAS

by

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The Henslow's Sparrow (*Ammodramus henslowii*) is a highly localized species that nests in grasslands in the eastern third of the United States and southern Canada (Bent 1968). Its proclivity for disappearing into dense grass cover during most of its breeding season, makes it an inconspicuous or unobtrusive grassland bird (Bent 1968; Wiens 1969; Robins 1971; Zimmerman 1988).

Henslow's Sparrows nest in the hidden recesses below the grass canopy and build well-concealed nests. Dragging a rope (Wiens 1969), a method that anticipates a brooding female will fly up from a nest as a rope passes over her head, fails. When disturbed a female Henslow's Sparrow will slip silently from the nest and run mouse-like through the grass before taking flight. Most nests are found by carefully watching adults for some behavioral clue or by accident.



Photograph 1. Henslow's Sparrow nest with eggs from Osage County, KS., 26 May 1994. Photograph by Gerald L. Horak.

In Kansas, single nests have been found in Shawnee Co. (Orville O. Rice unpubl. data), and on Konza Prairie in Riley Co. (Zimmerman 1989). Three nests, also on Konza Prairie in Geary Co., were found during the summer of 1974 by Scott Hatch (unpubl. manuscript). Breeding has been documented from Anderson and Morris counties, (Thompson and Ely 1992). Singing males were reported from Anderson, Coffey, Crawford, Franklin, Greenwood, and Woodson counties (William H. Busby unpubl. report; Sebastian T. Patti et al. unpubl. report) in 1990, from Greenwood, Lyon (Elmer J. Finck), and Osage (Gerald L. Horak) counties in 1991, and from Lyon (Finck) and Osage (Horak) counties in 1992. In 1993, singing males were reported from Jefferson (Galen Pittman pers. comm.), Woodson (J. L. Zimmerman pers. comm.), Anderson (Schulenberg unpubl. data), and Osage counties. Henslow's Sparrows have occurred irregularly in Osage Co. since 1981 (Duane Mitchell pers. comm.). They inhabit remnant native tallgrass prairies surrounding Melvern Reservoir that were listed by Zimmerman (1987) as possible breeding sites. During the summer of 1993, 14 tracts were surveyed for the presence of Henslow's Sparrows to provide baseline data on this population and possibly establish breeding records for Osage Co.

METHODS

Censuses were conducted along line transects through burned and unburned native grassland that ranged in size from 9.8 ha to 39.1 ha. Tract size averaged 29.7 ha. All censuses began at 0600 and continued until 1000 to take advantage of the sparrow's maximum singing time. Each of the 14 tracts were censused at least twice from 26 May to 11 August, using a spot mapping technique (Robins 1971). Only territorial males were counted and singing males were presumed to be territorial (ibid.). Henslow's Sparrows are monogamous (Wiens 1969) and a female was located on each territory.

Breeding habitat was described and measured using a 1 m² quadrat on each of the seven unburned tracts. Vegetation samples were collected at 10 sub-sampling points. All vegetation within the quadrat was identified to species and percent cover by standing dead grasses, live grasses, forbs, litter and bare ground was estimated. Litter depth was measured. Standing dead grass clumps and shrubs were also counted using Bitterlich's Variable Radius Method (Grosenbaugh 1952).

RESULTS AND DISCUSSION

A total of 25 singing males was found on the first census in late May and early June. They were distributed among four unburned sites and represent a possible population of 50 birds. Six males per 17.7 ha, three males per 31.4, eight males per 35 ha, and eight males per 40.3 ha were found. On the second census, conducted approximately one month later, 15 males were still territorial on these sites, although some shifting of territories had taken place. Six males were still present on one site as late as 11 August.

Henslow's Sparrows were absent from four tracts where they had nested last year (Gerald L. Horak), presumably because April burning effectively removed the standing dead grasses and litter. These grasslands are burned rotationally every three to four years as a management practice (Don Patton pers. comm.). This rotation burning appears to be favorable for Henslow's Sparrows (Zimmerman 1988). Although burning this spring excluded them from seven tracts, four of which were occupied last year, they found nest sites on four of the unburned tracts. Three additional unburned tracts did not have populations of Henslow's Sparrows.

One nest was found on 26 May by Gerald Horak (photograph 1). Location coordinates were SE 1/4, S31, T17S, R15E. He observed a female leave a clump of standing dead grass, run through dense cover, and flush. The female was identified as a Henslow's Sparrow. A singing male was present on the territory

A quick search revealed a neatly woven nest placed in a central crown of dried stems, 10.2 cm above the ground. The nest was well-concealed, by a 37-39 cm tall clump of little bluestem (*Andropogon scoparius*), and was not domed over as were some of the nests described by Hyde (1939). The center of stems was hollowed out and the cup-like nest was constructed entirely of dried grasses. The outer portion was made of coarse blades of little bluestem, with an inter lining of much finer grasses. The nest was only loosely attached to the upright stems. Measurements were recorded as: inner diameter 4.5 cm, outer diameter 7 cm, and inner depth 5 cm. Four oval shaped, semi-glossy cream white eggs with light chestnut colored blotches encircling the larger end were found in the nest.

The nest was empty on 7 June. The pair were still on the territory on 11 June and they behaved as if they were attempting to renest, but no new nest was found. Two Brown-headed Cowbird (*Molothrus ater*) eggs were left in the abandoned nest. By 18 June the territory was deserted and even the cowbird eggs were gone.

Vegetation at the nest site included little bluestem, sedges (*Carex* spp.), forbs, and a few free-standing shrubs. Percent cover of vegetation in a square meter surrounding the nest was standing dead little bluestem 10%, live little bluestem 10%, *Carex* spp. 25%, forbs, chiefly blazing star (*Liatris punctata*) and hemp dogbane (*Apocynium cannabinis*) 20%, bare ground 5%, and litter 30%. Litter depth was minimal at less than 2 cm throughout.

Detailed results of the vegetative analysis for each tract censused can be found in Schulenberg (unpubl. manuscript). Native warm-season grasses predominated on all tracts with little bluestem and big bluestem (*Andropogon gerardi*) being the principal species this year (Don Patton pers. comm.). Cover by forbs and shrubs was variable among the sites. Henslow's Sparrow breeding habitat has been characterized by the presence of tall dense grass cover, standing dead grasses, and an accumulation of litter (Wiens 1969; Robins 1971; Zimmerman 1988). These variables were evident on all 7 of the unburned tracts.

Henslow's Sparrow nests are usually built several cm above the ground in a clump of grass (Hyde 1939; Bent 1968; Wiens 1969; Robins 1971). Four nests found in Missouri (Skinner et al. 1984) were similarly situated. In Oklahoma, only one nest had ever been reported prior to 1992, when four were found during a survey of breeding populations at the Tallgrass Prairie Reserve (Reinking and Hendricks in press). One of these nests was on the ground and the other three were placed in standing dead grass clumps from 10 to 27 cm above the ground. Nests found in Anderson Co. Kansas by Brecheisen (unpubl. data) were described as either located at the base or within the crown of a grass clump. The four nests on the Konza Prairie were not described.

Standing dead grasses may or may not be a prerequisite of nesting for Henslow's Sparrows. Birds are known to nest in brome (*Bromus* spp.), bluegrass (*Poa pratensis*), tall fescue (*Festuca arundinacea*), prairie cordgrass (*Spartina pectinata*), wire grass (*Aristida stricta*) and sedges, as well as the native tallgrass prairie species (Sutton 1959; Bent 1968; Wiens 1969; Robins 1971; Clawson 1982). In the southeastern states, the wire grass community is fire maintained. However prairie cordgrass and the three introduced cool-season species are usually maintained by mowing. Henslow's Sparrows were found nesting in bluegrass hay fields that contained no standing dead grasses (J. L. Zimmerman pers. comm.). Elmer J. Finck also found them in several habitats, other than idle unburned prairie, where mowing or light grazing had removed some of the standing dead grasses. Singing males were present in two Conservation Reserve Program tracts, one native grass hay field, and one pasture that was lightly grazed.

Vegetation in the vicinity of the nest site was similar to other site descriptions (Skinner et al. 1984; Zimmerman 1988; Reinking and Hendricks in press). Birds require grass cover to protect the nest from discovery by predators, parasitism by Brown-headed Cowbirds, and microclimate extremes. Grass cover also provides singing perches that males may use to maintain territorial boundaries. Henslow's Sparrows may also require room to move through the grasses at ground level. A notable component of the basal area around the nest was 35% combined bare ground and litter, with one-third of the area open. These spaces around the grass clumps may enable the birds to quickly disperse through the grasses once the young have fledged.

Although not measured in this study, some nesting success was evident. Fledglings were observed on two sites and adults carrying food were seen on all four sites. Favorable habitat in Osage Co., if maintained, should support a small breeding population of Henslow's Sparrows in years to come.

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EDITOR'S COMMENTS

I wish to thank all of those persons who have submitted manuscripts for past bulletins and for the future ones. Our printer has switched to a new computer system and it is now possible for me to submit to him, the manuscript on 3½" computer disk. We did so with this present bulletin and we had hard copy from the printer for final proofing within two hours. This saves us time and also money in typesetting costs. In the future, if you can, please submit your manuscripts on 3½" disk, plus a hard copy. It doesn't matter what word processor you use as long as it is IBM compatible. Word Perfect and Ami Pro have already proved to work but we can try others. If you do not have a computer, still send your manuscripts in. I will put them on computer and give it to the printer. We can generally give you quick turnaround time. I have one manuscript for the December bulletin and there is room left for another short one or two. The March bulletin of course is the annual Xmas Counts. Max C. Thompson, Editor, 1729 E. 11th Ave., Winfield, KS 67156-4007.