

LOGGERHEAD SHRIKE PREDATION ON HENSLOW'S SPARROW

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During January and February 1998, we observed two predation attempts by Loggerhead Shrikes (*Lanius ludovicianus*) on Henslow's Sparrows (*Ammodramus henslowii*) wintering on the Mississippi Sandhill Crane National Wildlife Refuge (MSCNWR), Jackson County, Mississippi. Both observations were made during the course of a banding study designed to monitor population levels of Henslow's Sparrows wintering on coastal pine savanna along the Mississippi Gulf Coast (Chandler and Woodrey 1995).

We report these observations due to the lack of information on natural enemies of the Henslow's Sparrow, with no mention of Loggerhead Shrike as a predator (Hyde 1939). More importantly, the relatively high densities of Loggerhead Shrikes and Henslow's Sparrows wintering on the coastal pine savannas (210 Henslow's Sparrows banded in January and February 1998), coupled with the observed predation attempts, suggests the possibility of a significant predator-prey interaction between the two species.

Observations

On 5 February 1998 we flushed a Henslow's Sparrow from dense herbaceous vegetation while working on a coastal pine savanna on the MSCNWR. A Loggerhead Shrike perched nearby immediately gave chase after the sparrow, and pursued it for approximately 30 m before the sparrow dropped into the grass. The shrike pounced once where the sparrow had taken cover, flew up, and then hovered briefly before diving into the grass again. The shrike remained out of view for approximately five seconds, then flew up with the Henslow's Sparrow in its bill. The entire sequence of events occurred over a period of no more than 15-20 seconds.

On 12 February 1998 we observed another predation attempt by a Loggerhead Shrike on a Henslow's Sparrow, again while working on a coastal pine savanna on the MSCNWR. As previously noted, the attack was initiated when we flushed a Henslow's Sparrow. The sparrow flew to a nearby shrub, where it remained while the shrike hovered over the shrub. Upon our approach, the shrike retreated to a Slash Pine (*Pinus elliottii*).

Finally, on 28 January 1998, we observed a Loggerhead Shrike with a freshly killed passerine. The shrike was perched on a snag, approximately 30-40 m distant. Based on the size, general body shape, and short tail, we believe it was an *Ammodramus* sp., most likely a Henslow's Sparrow (based on census and banding data, > 99% of the *Ammodramus* on the coastal pine savanna at MSCNWR are *henslowii*; Mark Woodrey personal communication). However, we cannot be certain that the bird in question was not a Savannah Sparrow (*Passerculus sandwichensis*), another sparrow species sometimes commonly found in

coastal pine savanna habitats.

Discussion

There is little information on predators of the Henslow's Sparrow. Hyde (1939) listed snakes, in particular the Blue Racer (*Coluber constrictor flaviventris*), and the Northern Harrier (*Circus cyaneus*) as important predators of adult birds. Hyde also described a specific alarm note used by Henslow's Sparrows only in the presence of a Harrier. In addition to preying on Henslow's Sparrows, Harriers also predate at least two other members of the *Ammodramus* genus, the Sharp-tailed Sparrow (*A. cadacutus*) (Greenlaw and Rising 1994) and the Seaside Sparrow (*A. maritimus*) (Post and Greenlaw 1994), and perhaps the LeConte's Sparrow (*A. leconteii*) (Lowther 1996).

Our observations of the two Loggerhead Shrike attacks on Henslow's Sparrows represent the first known interactions between these two species. However, these observations were probably overdue; these species overlap in both their geographic range and their preferred habitats throughout much of the year (AOU 1983). The lack of previous observations may be due to a combination of a paucity of research on Henslow's Sparrow as well as the difficulty of collecting behavioral observations on this species.

Of the other *Ammodramus* sp., only the Grasshopper Sparrow (*A. savaanarrum*) is known to be a typical prey species of the Loggerhead Shrike (Vickery 1996), though LeConte's Sparrow may also be a "regular fare" (Lowther 1996). Avian prey does not seem to make up a large percentage of a shrike's diet, with the maximum reported being 10% (Yosef 1996). When shrikes do prey on birds,

they tend to be restricted to small passerines, including warblers, sparrows, mockingbirds, bluebirds, and swallows (Terres 1980, personal observation).

In general, Loggerhead Shrikes prey on a diverse range of taxa. Invertebrates can compose 60-85% of the total number of prey taken, especially in summer, though they are not necessarily the major component of the diet in terms of total biomass. Vertebrates, which can constitute up to 75% of the diet, often dominate a shrike's winter diet. Year-round, vertebrates tend to make up the majority of the diet in terms of the total biomass consumed (Yosef 1996).

Conclusions

The high densities of both Henslow's Sparrow (210 individuals banded in January and February 1998) and Loggerhead Shrikes wintering in coastal pine savanna habitats, coupled with our observations of actual predation by shrikes on sparrows, suggests that shrikes may regularly prey on Henslow's Sparrows wintering on the MSCNWR. While the possibility exists that our observations merely represented opportunistic shrikes attempting to capitalize on prey (i.e. we flushed sparrows in both of the witnessed attacks) that may generally be unavailable, we believe that Henslow's Sparrow may be a regular prey item for shrikes.

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