

# VOCALIZATIONS OF THE SAVANNAH SPARROW

By ROBERT E. GOBEIL

## INTRODUCTION

As part of a life history study, observations on vocalizations of the Savannah Sparrow (*Passerculus sandwichensis*) were obtained during the summer of 1964 (June 29 to September 3) on Kent Island, New Brunswick, Canada. This 200-acre island, site of the Bowdoin Scientific Station, is the largest of three islands located about six miles southeast of Seal Cove, Grand Manan, New Brunswick. The majority of Savannah Sparrows were nesting in the central part of the island, which consists primarily of open fields with timothy grass (*Phleum pratense*), red-top (*Agrostis alba*), brown bent grass (*Agrostis borealis*), and blue-joint grass (*Calamagrostis canadensis*) (Potter, 1937).

## DISCUSSION

Vocalizations in the Savannah Sparrow have not been thoroughly studied. Baird (in Bent *et al.*, 1968) has recently summarized what is known of the songs and notes in this species. He did not describe a flight song or food note.

The main vocalizations I recorded in the Savannah included a primary song, a possible flight song, and four basic notes: alarm note, hostile note, call note, and food note. The peak of singing in the Savannah occurred during the incubation period and terminated around late July. All vocalizations were studied from blinds placed near active nests.

*Primary song:* The primary song of the Savannah, which is most important in securing a mate and maintaining a territory, has often been described as insect-like in quality (Blanchan, 1903; Saunders, 1935). It is of low volume and audible only for a short distance. Baird (in Bent *et al.*, 1968) has summarized data on the primary song in the species so I will not discuss it at length. Borror (1961), using vibralyser sound spectographs, gives one of the more accurate descriptions of the primary song:

“The song consists of 1 to 4 short high-pitched notes uttered 3 to 4 per sec, followed by 1 to 3 short buzzy phrases a little lower in pitch and uttered 3 to 8 per sec, then 1 to 2 long buzzes about 0.5 sec in length, with the song usually ending in 1 to 3 short low-pitched notes. In songs with 2 long buzzes, the buzzes are separated by 1 to 4 (usually 1) short high-pitched notes, and the second buzz is lower in pitch and of a slightly different quality.”

*Flight song:* An unusual song, which may be a flight song, was noted only once, given by a single bird in flight. On July 5, a mated pair of Savannahs alighted in dense grass where their behavior could not be observed. A few minutes later, both birds



Figure 1. Typical singing posture of the Savannah Sparrow.

sprang from the grass, one following the other. As they flew to the opposite side of their territory, one of the birds gave a peculiar song in flight. It consisted of three or four "zee-zee" notes followed by several "bst-bst" notes. It had no resemblance to the primary song. Townsend (1920), describing courtship displays, stated that he . . . "heard the song given on the wing." Since he did not describe this song, he was probably referring to the primary song.

*Alarm note:* The short, harsh alarm note can be described phonetically by the sounds "tsup" or "tsip." It was used whenever the birds were "frightened" or "alarmed." When a young bird or an active nest was approached, both adults usually responded by flying towards the intruder. As they approached the intruder (in short, jerky flights with spread tail and quivering wings), both birds continuously gave a harsh and loud "tsip" note. The alarm note was also given during the "feigning behavior" of females frightened from the nest.

*Hostile note:* A characteristic hostile note, especially common in agonistic situations, was noted a number of times. Whenever a Savannah invaded an adjoining territory, it was quickly chased away. The accompanying note during these hostile displays was a buzzy "psst-psst" or "buzt-buzt." During the postbreeding season, adults often gave the hostile note as they chased immature Savannahs away from their immediate feeding areas. The hostile note was most often heard as Savannahs gathered at their roost

early in the evening. At this time, hundreds of birds congregated in a small area and aggressive encounters occurred continuously, being accompanied by the hostile note. Hailman (1958) and Norris (1960) have described a similar aggressive note during hostile displays in the Savannah Sparrow.

*Call note:* The call note, a softer and more ringing version of the "tsip" note, was first noted in ten-day old nestlings. It was most commonly heard in young birds which had just fledged. During this period, it functions as a means of contact between the fledglings and adult birds. Undisturbed young birds on the ground often gave the call note which was answered by nearby adults with a similar note. Adult birds of both sexes also frequently gave this note while feeding and preening. The call note may also function in maintaining a weak type of flocking behavior in the Savannah Sparrow (Quay, 1957).

*Food note:* Faint "peet-peet" food notes were first recorded in two-day old nestlings. This note was given by young birds whenever the adults brought food to the nest. In the Song Sparrow (*Melospiza melodia*), Nice (1943) also first heard feeding notes in two-day old birds. She indicates that such notes would probably be given on the first day if the birds were hungry.

*Height of singing perches:* Although many authors state that the Savannah usually or always sings from the ground (e.g., Mathews, 1921; Pearson, 1936), my observations on Kent Island do not support this. In fact, I rarely recorded birds singing on the ground. Normally birds sang from several perches in their territory which were exposed and above the general grass level. The typical singing posture of the Savannah Sparrow is shown in Fig. 1. Patches of goldenrod (*Solidago*), two to three feet in height, were most often employed as singing perches. When present in a territory, small spruces (5 to 10 feet high) were also used as singing perches. The height and number of singing perches varied greatly depending on the habitat found within the territory. When feeding on the shore area, Savannahs often utilized large stones as singing posts.

#### SUMMARY

The vocalizations of the Savannah Sparrow were studied during the summer of 1964 on Kent Island, New Brunswick. The primary vocalizations recorded included a primary song, a possible flight song, and four basic notes: alarm note, hostile note, call note, and food note. The peak of singing occurred during the incubation period and ended about late July. The majority of Savannahs sang from exposed perches which varied greatly in height (2 to 10 feet) depending on the habitat found within the territory.

#### ACKNOWLEDGEMENTS

I wish to thank James Baird for reviewing an earlier version of

the manuscript and offering helpful advice and criticism. I am also grateful to Charles S. Brand for supplying the photograph. These observations were obtained while working under a National Science Foundation Undergraduate Research Participation Grant (G-22902).

## LITERATURE CITED

- BENT, A. C., and Collaborators (Editor: O. L. Austin, Jr.). 1968. Life histories of North American Cardinals, Grosbeaks, Buntings, Towhees, Finches, Sparrows, and allies. Bull. 237, Part 1, U. S. Natl. Mus.: 678-696.
- BLANCHAN, N. 1903. Bird neighbors. New York: Doubleday, Page, and Co.
- BORROR, D. J. 1961. Songs of finches (Fringillidae) of Eastern North America *Ohio Jr. Sci.*, **61**: 161-174.
- HAILMAN, J. D. 1958. Behavior notes on the Ispwich Sparrow. *Bird-Banding*, **29**: 241-244.
- MATHEWS, F. S. 1921. Field book of wild birds and their music. New York: The Knickerbocker Press.
- NICE, M. M. 1943. Studies in the life history of the Song Sparrow. Vol. VI. Trans. Linnaean Soc., New York.
- NORRIS, R. A. 1960. Density, racial composition, sociality, and selective predation in nonbreeding populations of Savannah Sparrows. *Bird-Banding*, **31**: 173-216.
- PEARSON, T. G. (Editor). 1936. Birds of America. New York: Doubleday, Doran, and Co.
- POTTER, D. 1937. Plants found growing on Kent's Island, 1935-36. Bull. 3, Bowdoin Scientific Station: 19-26.
- QUAY, T. 1957. The food and feeding habits of the Savannah Sparrow in winter. *Jr. Elisha Mit. Sci. Soc.*, **74**: 1-6.
- SAUNDERS, A. A. 1935. A guide to bird songs. New York: D. Appleton-Century Company.
- TOWNSEND, C. W. 1920. Supplement to the birds of Essex County Massachusetts. *Mem. Nutt. Orn. Club*, **5**: 1-96.

*Department of Biology, St. Francis College, Biddeford, Maine 04005*

Received May, 1969.