GENERAL NOTES

Observations on Fox, Lincoln and Song Sparrows at Jackson Hole, Wyoming.—The generic status of the Fox Sparrow (*Passerella iliaca*), Lincoln Sparrow (*Melospiza lincolnii*) and Song Sparrow (*Melospiza melodia*) has been a subject for debate since Linsdale proposed that all three species be placed in the genus *Passerella* (Univ. Calif. Publ. Zool., 30: 251–392, 1928). Very likely an acceptable solution to this taxonomic problem may result only from a comparative study of the three species. In view of this, it seems worth while to note that all three species are to be found breeding in the willow marshes in Grand Teton National Park at Jackson Hole, Wyoming.

Although the primary purpose of my studies at the Jackson Hole Research Station of the University of Wyoming during the summers of 1952 and 1954 was not the investigation of these sparrows, I made some effort to observe their habitat preferences and habits. Their close association in the willow marshes seemed particularly interesting in view of the hypothesis discussed by Elton (Journ. Anim. Ecol., 15: 54–68, 1946) and others that members of the same genus are not generally found occupying the same niche or exploiting a habitat in the same way.

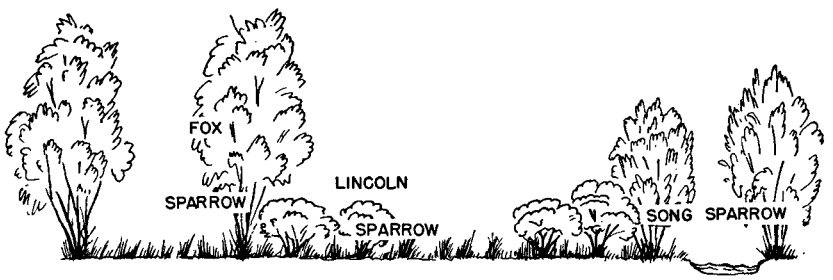

FIGURE 1. Vegetation profile of the willow marsh showing foraging sites of the three species.

The marsh in which the birds were found is directly across the road from the Research Station at Moran. The vegetation of this sort of marsh has been described by Reed (Amer. Mid. Nat., 48: 700–729, 1952). The aspect of the vegetation can best be seen in the accompanying profile (Figure 1) wherein are shown the typical foraging and singing niches of the three species of birds. Basically, the willow growth, which is the dominant vegetation, can be divided into three types according to the height and density of the plants. Along the "stream" courses and where there is open water the plants are extremely crowded and form a dense thicket, six to ten feet high. Here are heard Song Sparrows and here they forage, usually just along the edge of the water, often with their feet in the water. In the drier portions the willows are in low scattered clumps two to four feet high with stretches of sedges and grasses between. In these willows and in the grass are the Lincoln Sparrows. Occasionally, within the drier portions of the marsh, there exists a glade the sides of which are formed by a circle of willows ten to twelve feet high. In the middle of the glade is a grassy opening. The Fox Sparrows sing from these tall willows and feed in the grass of the glade and in the low willows bordering them. The three species are apparently occupying different niches, then, although at times singing within fifty feet of one another.

In terms of relative numbers, the Lincoln Sparrows are the most common. This is to be expected since their habitat covers the greatest area. In some census counts, taken during the latter part of June and the month of July during both years, I obtained the following approximate figures for density, expressed as individuals per ten acres: Lincoln Sparrow 6, Song Sparrow 3, Fox Sparrow 2.

As a further note on the ecological separation of these three species one can derive from Martin, Zim, and Nelson (1951, American Wildlife and Plants) the following estimates for the composition of the diets of the three species during summer months: Lincoln Sparrow, plant food 40 per cent, animal food 60 per cent; Song Sparrow, plant food 60 per cent, animal food 40 per cent; Fox Sparrow, plant food 55 per cent, animal food 45 per cent. Linsdale (*op. cit.*), however, found the diet of Fox Sparrows in western Nevada during May to consist almost entirely of insects. These figures are only a general indication, of course, since they do not necessarily reflect the situation existing at Jackson Hole. They do seem to show, however, that there is only partial overlap in the food habits of the three species.

Of the three species, the Fox Sparrows appear to be the most restricted in type of habitat occupied. I have not found them in any other vegetation-type at Jackson Hole. The Lincoln Sparrow, which one thinks of as a bird of grassy meadows, occurs in such places along the east base of the Tetons. They also occur in the chaparral-like willow scrub on the slopes of the Tetons, although they are not as numerous there as in the marshes. Some are also found in the herbaceous understory of the aspen groves, but these groves are commonly near willows and this occurrence may represent peripheral foraging. Song Sparrows are found wherever there is open water both in the valley, as along the banks of the Snake River, and in the canyons of the Tetons near small streams.—George W. Salt, *Department of Zoology, University of California, Davis.*

Notes on the White-breasted Thrasher.—The White-breasted Thrasher (*Ramphocinclus brachyurus*) is one of the rarest of West Indian birds. Formerly it was much more numerous and widespread, but it has decreased steadily during the past hundred years, with the result that both the Martinique and St. Lucia races are now threatened with extinction.

The Martinique form (*R. b. brachyurus*) appears to be confined at present to the Presqu'île de la Caravelle, an extraordinary peninsula that juts out over five miles into the Atlantic Ocean. For many years thought extinct, this race was rediscovered here in 1950 by Père Pinchon and Marcel Bon Saint-Come (L'Oiseau et Rev. Française d'Ornithologie, 21: 267, 1951). Subsequently a number of "colonies" of *Ramphocinclus* were found on "La Caravelle." I had an opportunity of visiting one of these at Pointe Ferret in January, 1956, in company with Père Pinchon and M. Bon Saint-Come. The birds inhabit semi-arid country, much like the acacia-covered hillsides of southern Martinique, and were found without difficulty by their chattering—a harsh *chek*, or *chek—chek—chek—chek*. No song was heard. In habits they are largely terrestrial and are not particularly shy. As many as five disused nests were located the day I was there, including one that contained fragments of greenish blue eggshell. The nests were comparatively bulky and loosely put together, composed of large twigs and leaves, the inner cup lined with grass and rootlets. They were situated in saplings between 7 and 20 feet above the ground. M. Bon Saint-Come told me that he had found a nest with two young.

The St. Lucian race (*R. b. sanctae-luciae*) is apparently restricted to the northeastern part of that island in the region about Grand Anse and Marquis. I collected *Ramphocinclus* near the latter locality in 1927, encountering it in semi-arid