GENERAL NOTES

A hybrid Grasshopper Sparrow × Savannah Sparrow.—The relationships among the American sharp-tailed grassland sparrows currently placed in the genera *Passerculus, Ammodramus, Passerherbulus, Ammospiza,* and *Myospiza* are often discussed by ornithologists, but the literature contains little to enlighten these relationships. Generic splitting was carried to the extreme by Oberholser, who maintained a distinct genus for virtually every species in the complex. His rationale for this position was that "the only other consistent course seems to be to merge *Passerherbulus* with *Ammodramus* and *Centronyx,* for the differences that separate these genera from *Passerherbulus* are no more important than the structural differences between the species of *Passerherbulus* itself" (*Ohio J. Sci.,* 17: 332, 1917). R. Ridgway (*A manual of North American birds,* Philadelphia, J. B. Lippincott Co., 1887) originally placed all the sharp-tailed grassland sparrows in the genus *Ammodramus.* More recently R. S. Palmer (*Bull. Mus. Comp. Zool.,* 102: 550, 1949) combined *Ammodramus* and *Passerculus* without explanation, but erred in using the latter, more recent name for the combined genus; he continued to recognize *Ammospiza* as a separate genus. A. R. Phillips, J. Marshall, and G. Monson (*The birds of Arizona,* Tucson, Univ. Arizona Press, 1964) also without explanation use *Ammodramus* for all Arizona species of this group of sparrows.

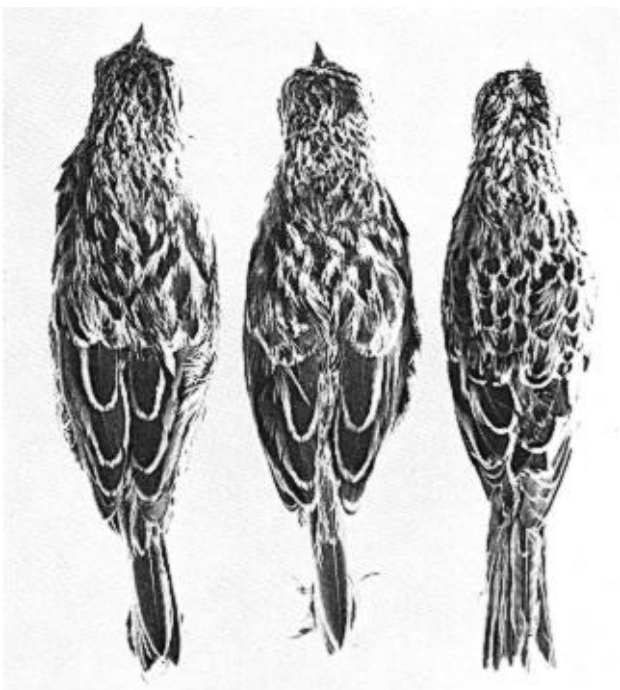

Figure 1. Dorsal view of juvenile sparrows. From left to right: *Passerculus sandwichensis, Passerculus sandwichensis* × *Ammodramus savannarum,* and *Ammodramus savannarum.*

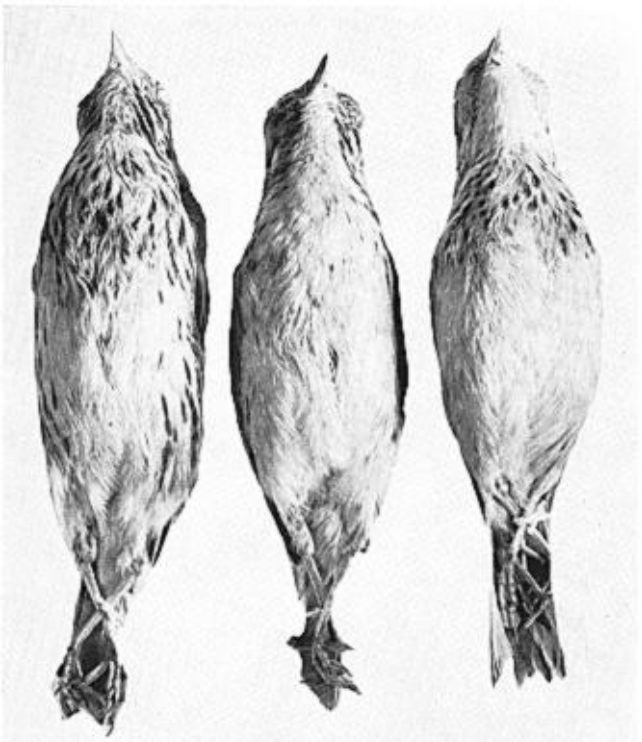

Figure 2. Ventral view of juvenile sparrows; same order as in Figure 1.

An indication of the close relationship between distinctive types among the grassland nesting sparrows is a hybrid between the Grasshopper Sparrow (*Passerculus sandwichensis*) and the Savannah Sparrow (*Ammodramus savannarum*) I collected at the north end of Lago Texcoco, Valley of Mexico, 19 July 1957. The hybrid, a female in slightly worn juvenal plumage, weighed 16.4 g and showed no apparent structural abnormalities.

In general coloration and dorsal pattern (Figure 1), the hybrid is most similar to a comparable juvenile *P. sandwichensis*. Ventrally (Figure 2) its most striking feature is the same as that of the *Zonotrichia* and *Melospiza* hybrid (Dickerman, *Auk,* 78: 629, 1961; see Figure 2), the near absence of the breast streakings so characteristic of the juvenal plumages of both parental types. Five juvenile *A. savannarum* at hand from Idaho and Minnesota show much variation in the extent and darkness of these streakings; one bird has them greatly reduced, but not to the extent shown by the hybrid. The few streaks present in the hybrid show a tinge of rust, a color completely absent in the juvenile *P. sandwichensis* but characteristic of *A. savannarum*. The sides and flanks are unstreaked as in the *A. savannarum* juvenile (Figure 3); the moustache mark is well developed as in juvenile *P. sandwichensis,* but the auricular area is pale as in *A. savannarum*.

The hybrid has streaked rather than scalloped interscapular feathers, giving the general aspect of *P. sandwichensis,* but the nape feathers and those of the posterior

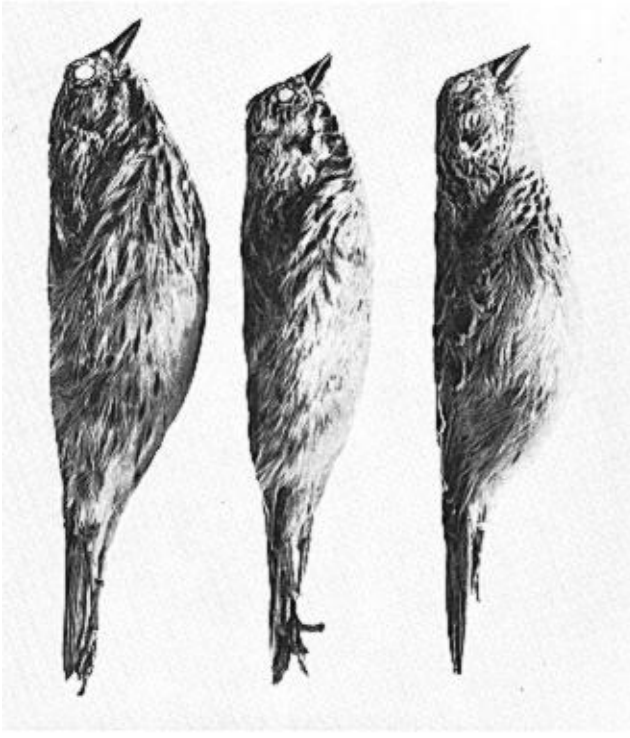

Figure 3. Lateral view of juvenile sparrows; same order as in Figure 1.

portion of the crown are lightly scalloped. With all but the napes covered, one can not distinguish between the hybrid and the *A. savannarum* young in Figure 1 (allowing for greater compression in the nape region of the latter resulting from make of skin). The upper tail coverts are relatively long as in the *P. sandwichensis* juveniles. They repeat the rust color found in the breast streaking and in the greater secondary coverts reminiscent of the way in which rust color dominates these areas in the basic plumage of *A. savannarum*. The edgings of the secondaries and tertials are richly colored as in *P. sandwichensis*. The tertials are long, similar to those of *P. sandwichensis*. The wing is short, closer to *A. savannarum*.

The rectrices are similar to those of *P. sandwichensis* in shape and are dark; the central feathers are without the pattern found in *A. savannarum*. The outermost right rectrix (the outer left is missing) is whitish on the exterior edges of both vanes at the tip as in *A. savannarum*. The tail is somewhat more graduated as in the latter species and is intermediate in length between those of the few juvenals of each species at hand.

The bill is small as in the Mexican plateau populations of *P. sandwichensis*. Soft parts were not recorded, but the bill in the dried skin is darker, resembling young *P. sandwichensis*. Four young *A. savannarum* at hand have much paler mandibles and slightly paler maxillae than three *P. sandwichensis* or the hybrid. There seems to be no consistent difference in the colors of the dried tarsi and toes of the juveniles.

No Grasshopper Sparrow specimens have been taken from the Valley of Mexico during the breeding season, and the present hybrid is the first indication of such a population. The type locality of *A. s. bimaculatus* is Temascaltepec, State of Mexico, only about 85 miles west-southwestward from Mexico City. At the time this specimen was collected in 1957, the north end of the Lago Texcoco was rapidly being drained and plowed. The last marsh vegetation of that portion of the lake was destroyed the following year (Dickerman, *Occ. Pap., Univ. Minnesota Mus. Nat. Hist.*, no. 9, 1962; p. 21). Thus while the area was highly suitable for Savannah Sparrows, most of the lusher grasses and sedges had already disappeared and one would not have expected Grasshopper Sparrows in the area. Today the only suitable places where the species might breed in the Valley of Mexico are near the Mexico City Airport where sewage drainage maintains some marsh areas, possibly around two duck preserves on the west side of the Valley near the town of Atenco, or in the vicinity of Lago Zumpango.

The author wishes to thank the curators of the following collections for permitting him to examine material in their care. American Museum of Natural History; Carnegie Museum, Pittsburgh; Museum of Vertebrate Zoology, University of California, Berkeley; United States National Museum. Allan R. Phillips's collection was extensively used in the latter stages of this study. The hybrid is deposited at the University of Minnesota, Museum of Natural History. Collecting in Mexico was done under permit from the Departmento de Conservacion de la Fauna Silvestre.—ROBERT W. DICKERMAN, *Department of Microbiology, Cornell University Medical College, New York, New York.*

Geologic age of *Ciconia maltha*.—Recently Jehl (*Auk*, 83: 670, 1966) reported a fragmentary synsacrum of a large stork from the Lower Pleistocene (Aftonian), thought on geographic grounds to be probably *Ciconia maltha* L. Miller, but he wisely concluded that the specimen was insufficient to extend the known geologic range of *C. maltha* lower than the Middle Pleistocene.

In 1950 I found this to be the most plentiful single species of bird in the "Bird-bone Quarry" on the east side of the Big Sandy River, Mohave County, Arizona, above the settlement of Signal. A considerable number of bird bones from this locality was assembled and studied that autumn at the United States National Museum, thanks to the authorities of that and several other institutions, particularly the California Institute of Technology. I never reported on this lot of fossils, as a much larger and better one from the same site was in the magnificent Frick Collection at the American Museum of Natural History. Later Mr. Frick kindly wrote me that the associated mammals indicated "a southern phase of the uppermost Pliocene." Even if, as Dr. John Lance suggested to me in conversation, this might prove to be the same as Blancan, an age in dispute which may include the start of the Pleistocene, it is still considerably older than Middle Pleistocene, thus lending support to Jehl's tentative determination. (To be sure, I had no opportunity to compare these fossils directly to *C. m. maltha*; but they fitted the description of that race perfectly.)

Besides the several persons who lent fossils, I am especially indebted to the late Guy Hazen, geologist then operating a small museum in Kingman, Arizona, who had collected Frick's material. He guided me in to the quarry and helped collect there; later he gave me more bones from there (including the type of *Rallus phillipsi* Wetmore, 1957), as well as a very few from other sites.—ALLAN R. PHILLIPS, *Instituto de Biología, Universidad Nacional Autónoma de México, México, D. F.*