

larged testes (7.1×5.1 and 7.0×5.6 mm), was moderately fat and weighed 42.7 g. A brood patch, partially refeathered from the rear, was present. The bird, in summer plumage with no evidence of molt, showed extensive abrasion of the rectrices, secondaries, and tertiaries. Its stomach contained insect parts.

This species has not previously been recorded on St. Lawrence Island. According to the A.O.U. Check-list of North American Birds, 5th Ed. (1957:641) it breeds only on Hall and St. Matthew islands, Alaska, about 200 miles southwest of St. Lawrence Island. During migration and in winter it has been recorded on Nunivak Island (Swarth, *Pacific Coast Avifauna*, 22:56-58, 1934) and several localities on coastal Alaska from St. Michael on Norton Sound (Nelson, *in* Gabrielson and Lincoln, *Birds of Alaska*, 1959:824) to Nushagak near Bristol Bay (Osgood, *N. Amer. Fauna*, 24:74, 1904). This species has also been recorded on St. Paul Island by Hanna (*Auk*, 37:254, 1920) and as a possible breeder there by Kenyon and Phillips (*Auk*, 82:634, 1965).

The date on which this bird was observed and subsequently collected, together with the presence of a brood patch and enlarged testes, strongly suggests that it bred on St. Lawrence Island in 1966. No female was seen, and the behavior of the male was not observed in detail, making the presence of a territory impossible to ascertain. The Snow Bunting, *P. nivalis*, was a common breeder in this area, with fledged young being seen about the middle of July.

An explanation of the restricted breeding area of *hyperboreus* is rendered difficult by the lack of knowledge of its habits and requirements. However, two possibilities come to mind, namely, freedom from competition with *nivalis* or a high degree of philopatry (faithfulness to a species' birthplace). Gabrielson and Lincoln (*op. cit.*) state that "except for the fact that these birds choose to confine their breeding activities to these two islands [Hall and St. Matthew islands], their behavior is not greatly different from that of the Eastern Snow Bunting which is found on the mainland and on most of the other islands of the Bering Sea." They do not record *nivalis* from Hall or St. Matthew islands; thus *hyperboreus* is able to exist there without competing with *nivalis* as would seemingly be necessary if it were sympatric with *nivalis*.

These observations were made while I was engaged in studies of the breeding biology of two species of plankton-feeding alcids on St. Lawrence Island. This work was supported by a grant from the National Research Council of Canada to M. D. F. Udvardy, and I wish to thank him for critically reading this manuscript.—SPENCER G. SEALY, *Department of Zoology, University of British Columbia, Vancouver 8, British Columbia, 22 October 1966.*

Sharp-tailed Grouse Relations to a Food Source near a Dancing Ground.—The behavior of the Sharp-tailed Grouse (*Pedioecetes phasianellus*) on dancing grounds has been described by Lumsden (1965), Hamerstrom and Hamerstrom (1960), and Ammann (1957). Male sharptails are associated with a dancing ground where they conduct their complicated courtship performances at certain times of the year. Males usually adhere rather closely to a well-defined territory, although territorial boundaries are often violated when females are present. Males may even leave the dancing ground to join females (Lumsden, 1965). As described in this paper, adjustments of territories may also occur in response to the proximity of a localized food source.

This observation was recorded on Display Ground 11 in the Bessey District of the Nebraska National Forest, Thomas County, Nebraska. The National Forest is located in the Sandhills and has been described in a previous paper (Blus, 1966). Repeated observations from 1963 through 1966 indicated that the display ground was situated on a small hill; territories of males were located from 50 to 150 feet north of a windmill and tank. An area of several hundred feet around the windmill was severely overgrazed by cattle that were present in the area from May to October. During the initial morning observations in the spring of 1965 (7 April), territories of most of the 11 males had been moved south to a valley around the windmill. The territory of one male included the tank, which had been drained the previous fall, and the area immediately around it. The approximate dimensions of the tank are 20 feet in diameter and 2 feet in depth. Soon after my arrival by automobile at 0650, the males on the dancing ground resumed courtship of several females by vigorous Tail Rattling and Posing displays. Display terminology is that of Lumsden (1965). The principal display of the male in the tank, hereafter referred to as the tank male, was that of Cooing as he moved in and around the tank. At 0720, seven female sharptails flew to the

tank where they began feeding on a sedge-like plant in the bottom of the tank, which had grown in response to recent rains. The females fed for approximately 20 minutes, and during this time, the tank male was Posing and Tail Rattling constantly in the tank. Beginning at 0754, the morning display was terminated by most males; and they began attempting to move into the tank. The tank male, however, was still active; and he chased seven separate males from the tank in 12 minutes before leaving to chase another intruder. Three males got into the tank separately during the next three minutes, and they fed on the plants until the tank male returned and chased them away. Several males were attempting to get into the tank at 0812 when all of the males flew from the area.

By 11 April the vegetation in the tank had dried, and the males were in their regular positions atop the small hill. None of the birds was in or near the tank. Sharptails are known to include a large amount of green vegetation in their diets in Nebraska (Swenk and Selko, 1938; Kobriger, 1965). It is to be expected that the succulent vegetation in the bottom of the tank would be sought after at this early date when green vegetation was otherwise relatively scarce. Apparently, changes in territories and behavior of the males were a result of both the location of the food source and the attraction of hens to it.

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LITERATURE CITED

- AMMANN, G. A. 1957. The Prairie Grouse of Michigan. Mich. Dept. Conserv. Game Div. Bull.
- BLUS, L. J. 1966. Progress report on the Prairie Grouse nesting study in the Nebraska Sandhills. Nebr. Bird Rev., 34:23-30.
- HAMERSTROM, F. N., JR., and FRANCES HAMERSTROM. 1960. Comparability of some social displays of grouse. Proc. XII Intern. Ornithol. Congr., p. 274-293.
- KOBRIGER, G. D. 1965. Status, movements, habitats, and foods of Prairie Grouse on a sandhills refuge. J. Wildl. Mgmt., 29:788-800.
- LUMSDEN, H. G. 1965. Displays of the Sharptail Grouse. Ontario Dept. Lands and Forests Research Rept. No. 66.
- SWENK, M. H., and L. F. SELKO. 1938. The late autumn food of the Sharp-tailed Grouse in western Nebraska. J. Wildl. Mgmt., 2:184-189.
- LAWRENCE J. BLUS, *Nebraska Game, Forestation and Parks Commission, Thedford, Nebraska 69166, 10 October 1966.*