

## THE BREEDING DISTRIBUTION OF SMITH'S LONGSPUR IN ALASKA

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On the basis of previously published data, Smith's Longspur (*Calcarius pictus*) is known to breed in only two areas, both of which are north of the Arctic Circle. In the Brooks Range it has been recorded as breeding in Anaktuvuk Pass 68°08' N 151°45' W (Irving 1960). He noted that the species frequents wet, grassy areas and nests on hummocks slightly raised above the wet or damp surroundings. The elevation of the floor of this valley is in the range 2000–2200 ft. The only other recorded breeding area is on the south side of the Brooks Range, where it has been reported nesting on the valley floor of the upper Sheenjek River 69°00' N 144°00' W at about 2200 ft (Kessel and Schaller 1960). Nests were found in the tussock-heath tundra habitat where they were hidden in moss hummocks and *Eriophorum* tussocks. The species has also been reported from above timberline between the Tanana and Yukon rivers (Blackwelder 1919, Kemsies 1961) who listed specimens from Indian Creek 64°11' N 145°42' W and Summit 64°30' N 143°30' W in the Tanana-Yukon highlands.

In June 1970, in the course of working on the north side of the Brooks Range, I found these longspurs breeding in three valleys between Anaktuvuk Pass and the Sheenjek. These observations concerned a total of six pairs, four singing males, and four nests. The location of the relevant localities is as follows:

- (a) Sagavanirktok River valley (head of valley 68°10' N 149°04' W). Three localities in this valley from north to south were: on the west side close to the junction with the Ribdon River at about 1400 ft, one singing male present; on east side just south of junction with Accomplishment Creek at 1600 ft, one pair present and one nest with five eggs; and near the junction with the Atigun Canyon at 2000 ft, one singing male present.
- (b) Ribdon River valley. Three pairs were present and two nests each with four eggs were found about 5 miles N of Elusive Lake at 68°45' N 148°34' W at 1500 ft.
- (c) Atigun River valley (head of valley at 68°31' N 149°01' W). A singing male was present on the south side of the Atigun Canyon at about 2900 ft, 5 miles E of Galbraith Lake 68°28' N 149°29' W. A pair was present about 7 miles S of this lake and a second pair with a nest containing three eggs about 8 miles S at 2600 ft.

The habitat in all six locations was essentially similar, being waterlogged sedge-grass marsh on polygonal-patterned ground, and dominated by *Carex aquatilis* with scattered *Eriophorum angustifolium* tussocks. The two most northerly of the Sagavanirktok valley sites lacked the *Eriophorum* and had instead low *Salix pulchra* and *S. lanata*. In the Ribdon valley location, *Equisetum palustre* was present in addition to *C. aquatilis* and the *E. angustifolium* tussocks. The one location that did not conform with the others was the Atigun Canyon site at 2900 ft, which was *E. vaginatum* tussock tundra by a small lake. The four nests found were all built into the side of these tussocks.

The first four breeding localities described above all lie in the Arctic Foothills topographic division of Alaska (Wahrhaftig 1965). The last two sites come within the Central and Eastern Brooks Range division, as does Anaktuvuk Pass. The Sheenjek River area on the south side of the mountains falls within the Porcupine Plateau division. All these breeding areas lie within the 1400–2900 ft altitudinal range.

Other published breeding-season records of this species are from Wahoo Lake 69°08' N 146°58' W in July 1952 at 2400 ft, where it was uncommon and associated with open cottongrass tundra, generally on flat areas adjacent to the lake. It has also been found at 3000 ft on the alluvial outwash between Lake Schrader and Lake Peters 69°19' N 145°03' W (Bee 1958). It was noted at 2900 ft in the Chandler Lake area 68°15' N 152°40' W in 1967 and 1968 (Campbell 1968). These three localities are all in the Central and Eastern Brooks Range.

I have been advised by Clayton M. White (pers. comm.) that in July 1969 a pair of these longspurs was seen collecting food, undoubtedly to feed young in the nest, a few miles from the confluence of the Colville and Kikiakrorak rivers on the Arctic Coastal Plain at 70°00' N 151° 60' W. This appears to constitute the most northerly record so far.

The data now available indicate that Smith's Longspur breeds in the Brooks Range and associated foothills from at least Anaktuvuk Pass eastward, and probably as far north as the Franklin Mountains in the east and the vicinity of the Kikiakrorak River in the west. For habitat during the breeding season, this species selects wetter areas than is normally the case with the Lapland Longspur (*C. lapponicus*). The difference in habitat selection is apparent in areas where both species occur together, as in the Atigun valley.

In July 1973 I encountered this longspur in the Wrangell Mountains area near Rock Lake 61°24' N 143°44' W, which lies on the edge of the Alaska Range (Central and Eastern Part) division of Wahrhaftig's classification. Breeding pairs were located at two sites as follows:

- (a) Alpine plateau on the hills immediately south of Rock Lake; altitude 5000–5040 ft. This fairly level plateau appeared to be quite well drained, and was dominated by hummocks of *Dryas octopetala* with which was associated *Rhododendron lapponicum*. The flat ground between these hummocks was dominated by a community of *Betula nana*, *S. arctica*, *C. bigelowii*, *Cordylis pauciflora*, *Pedicularis kanei*, *Astralagus umbellatus*, and *Anemone parviflora*. Damp spots were characterized by *Polygonum bistorta* and *Carex* spp. At least four pairs of these longspurs were present and engaged in feeding young in the nest.
- (b) Alpine plateau on the mountains just north of Rock Lake; altitude 5075–5100 ft. This was a slightly sunken summit plateau-bog, more or less saucer-shaped, with higher dry ground forming the rim. The vegetation of the bog area was dominated by *E. vaginatum* tussocks and *P. bistorta*. The drier spots within this bog were characterized by tussocks of *C. bigelowii* with which were associated *B. nana*, *S. arctica*, *Pedicularis capitata*, and *Potentilla fruticosa* (uncommon). Scattered, raised dry mounds supported a flora of *D. octopetala* and *S. reticulata*. At least three breeding pairs were present here.

One nest found was built into the side of a *Carex* tussock and contained five young.

This was a much wetter habitat than the plateau to the south of Rock Lake and contained a considerable amount of standing water masked by the vegetation.

The discovery of Smith's Longspur breeding in the Wrangell Mountains area extends the known range in Alaska south of the Arctic Circle, and some 400 miles SSE of the nearest known breeding area in the Sheenjek valley on the south side of the Brooks Range. It is also interesting that the Wrangell Mountains sites are at much higher elevations than those reported from the Brooks Range. It now remains to be seen whether or not the species breeds in any of the intervening areas.

Across the Canadian border there are records for southern Yukon Territory (Clarke 1945), and breeding evidence from along the Haines Highway in British Columbia (Weeden 1960).

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### AN OBSERVATION OF NOCTURNAL PASSERINE MIGRATION THROUGH PANAMÁ

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During the night of 2-3 November 1972, I observed passerine migration passing over Balboa, Panamá, using the ceilometer technique described by Gauthreaux (*Bird-Banding* 40:309-320, 1969). Observations were made at the FAA facility in Balboa, located about 1 km from the Pacific Ocean. I conducted 15-min watches, using one 100-watt ceilometer bulb

and 10 × 50 binoculars. The mean direction of the movement was toward 75° (fig. 1) with an angular deviation of 40°. Using the formula of Able and Gauthreaux (*Condor* 77:92-96, 1975), I computed the traffic rate as 14,000 birds. The only other data available on the density of nocturnal passerine migration in Panamá were collected by Newman and Lowery (*Spec. Publ., Mus. Zool. Louisiana State Univ.* 3:1-39, 1964) during October 1952. The traffic rates they listed for Balboa and Panamá City varied from 4000 to 17,000, depending on when the observation was made. The peak values for three nights were 13,000-17,000, close to what I obtained. New-

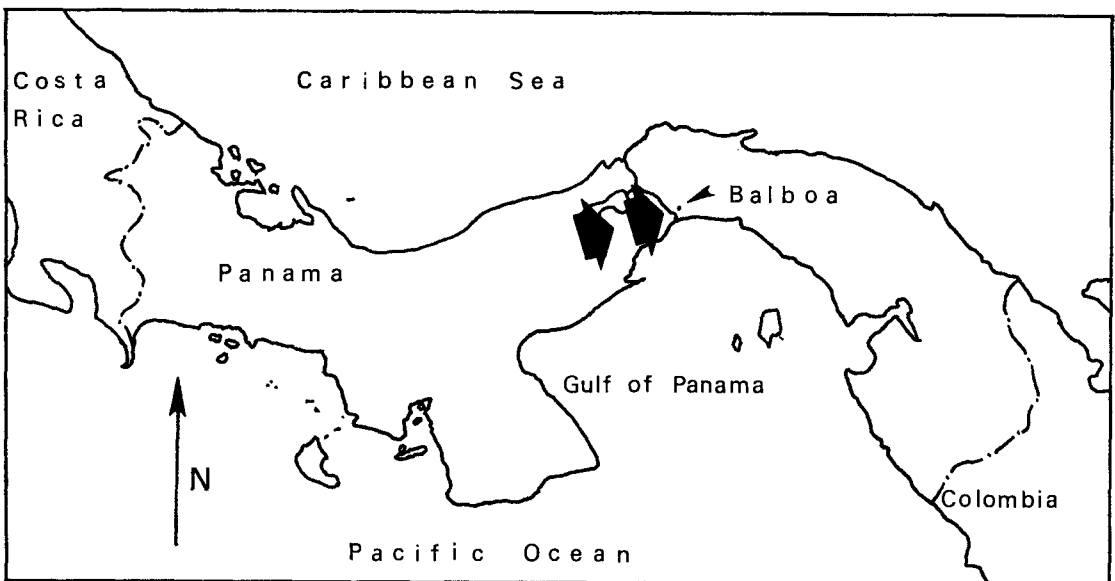


FIGURE 1. A map showing the route of nocturnal passerine migration over Balboa, Panamá. The arrows indicate the path followed by the migrants.