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A Hybrid Longspur from Saskatchewan.—When members of two populations belonging to categories of the rank of species or higher mate and produce viable offspring the resulting individuals are termed "hybrids." (Mayr, 1942: 258.) "Sympatric hybridization" is applied to examples in which an occasional hybrid is formed between two species which coexist over large areas without interbreeding (Mayr, 1942:259).

The Chestnut-collared Longspur (*Calcarius ornatus*) and the McCown's Longspur (*Calcarius mccownii*) are sympatric over most of their breeding ranges. Both nest in the prairie regions of south-central Canada and the north-central United States. They are frequently reported as summer residents at the same locality. However, the two species do exhibit different ecological preferences. In southwestern Saskatchewan, Bent (1908:30) reported Chestnut-collared Longspurs "more abundant on the more grassy prairies" and McCown's "commoner on the more barren plains." In the eastern half of Montana, Saunders (1921: 114–116) found the Chestnut-collared preferring "areas of rather long grass bordering marshy ground, or in wet hollows where the soil is alkaline" and the McCown's more abundant on "the high, dry prairie benches" where "the grass is shorter than in places inhabited by *C. ornatus*." These same differences in habitat have been emphasized by DuBois (1935) in his studies of both longspurs in Teton County, Montana. Bailey and Niedrach (1938: 244) found that in north-central Colorado, "the flat expanses were typical nesting areas of the McCown's Longspurs and the valleys of the Chestnut-collared." Although these observations indicate well-marked average differences in habitat preference each of the authorities cited also points out that both species may at times nest in the same or closely adjoining areas.

Between May 23 and June 4, 1946, one of us (Pettingill) engaged in field studies near the town of Kronau, eighteen miles southeast of Regina, Saskatchewan. The area is part of the so-called Regina Plain, a flat, treeless region mostly under cultivation except for occasional pastures and small areas along streams and roads. These uncultivated areas were covered with grass, usually quite thick and tall, and stalks of scrubby vegetation occurring in clumps or as scattered plants. Many of these areas were investigated and Chestnut-collared Longspurs established on territories were invariably found. In addition Western Meadowlarks (*Sturnella neglecta*) and Baird's Sparrows (*Ammodramus bairdi*) were present, but there were no McCown's Longspurs.

On June 4, a large uncultivated pasture of approximately 50 acres was visited. Here the grass was short and sparse and there was no scrubby growth. Five singing Chestnut-collared Longspurs in typical plumage were noted, and a specimen which proved to be a hybrid between Chestnut-collared and McCown's longspurs was collected. This bird was noted in song flight and was observed to have elements of the display of both parental species. The flight songs of typical McCown's and Chestnut-collared longspurs differ in movements and in song pattern. Both species fly gradually upward, their wings beating rapidly. From the peak of the ascent McCown's proceeds to sail downward abruptly with wings held stiffly outstretched and raised high above the back. The Chestnut-collared, after reaching the peak of the ascent, prolongs the flight by circling and undulating, finally descending with the wings beating as rapidly as before. Both species sing after the ascent, but the song of the McCown's is louder with the notes uttered more slowly. The hybrid's song flight closely resembled the McCown's in the pattern of movement during descent and in the absence of circling and undulating, but the song itself was indistinguishable from that of the Chestnut-collared.

The hybrid specimen was an adult male in breeding condition. The larger testis was nearly 8 mm. in length and 5 mm. in width. In color pattern it is clearly intermediate between the parental species.

Although similar or virtually identical in the color of plumage areas on some parts of the body, the two parental species show at least seven major points of difference. The following table summarizes these differences. In all characters the hybrid

Item	*McCown's Longspur*	*Chestnut-collared Longspur*
Occiput	Gray	White spot
Nape	Gray	Chestnut collar
Bend of wing	Rufous	Black feathers with white tips
Throat	White	Buffy
Abdomen	White	Black
Back	Grayish	Brownish
Tail pattern	Narrow black terminal band	Broad black terminal band

is phenotypically intermediate. It seems to fall so close to the midpoint of theoretically possible recombination types that it seems likely that it is an F_1 individual rather than the result of a back cross. A description of the hybrid follows:

Pileum, post-ocular stripe, and line extending down side of hind neck black; superciliary line, lores, and throat white; cheeks buffy; occiput with white spot and nape with mottled chestnut collar. Both nape and occiput showing condition intermediate between typical parental species. Back feathers brownish-buff with darker brown centers; bend of wing (median coverts) chestnut brown with black bases; underparts black on breast with black extending down flanks, abdomen and center of belly mixed white and black, and crissum white. Pattern on rectrices intermediate between the parental species. Outermost tail feather dusky on outer web 12 mm. from tip; second rectrix dusky on outer web 17 mm. from tip; third rectrix with broad dusky tip across both webs, 20 mm. wide on outer and 10 mm. wide on inner web; fourth and fifth rectrices with same pattern as third but with slightly wider band on inner webs.

In comparison, the Chestnut-collared Longspur shows wider dark tips to the white tail feathers and McCown's shows narrower ones.

The size of the bill is a point of distinction between the McCown's and Chestnut-collared longspurs. Five adult males of McCown's show a bill depth at the anterior

margin of the nostrils ranging from 7.1 to 7.6 mm. with an average of 7.32 mm. Four adult male specimens of the Chestnut-collared Longspur range from 5.0 to 5.3 mm., averaging 5.25 mm. The hybrid is intermediate with a bill depth of 6.3 mm.

The width of the bill at the anterior margin of the nostrils in McCown's (5 specimens) ranges from 5.2 to 5.5 mm., averaging 5.34, and the Chestnut-collared (4 specimens) ranges from 4.6 to 4.9 mm., averaging 4.72 mm. The hybrid is intermediate with a bill width of 5.1 mm.

It may safely be assumed that, as a general rule, forms which successfully interbreed are more closely related than those which cannot. The discovery of a hybrid between any two species should therefore always be the stimulus for the re-evaluation of the taxonomic status of the species involved. In the present instance it seems doubtfully valid to separate the members of the genus *Calcarius*, including the Chestnut-collared, Lapland (*C. lapponicus*) and Smith's (*C. pictus*) longspurs from the monotypic genus *Rhynchophanes*, in which McCown's Longspur was placed by Baird in 1858 primarily on the basis of the larger bill.

While it is true that McCown's Longspur has the largest bill of the group, it is demonstrable that it merely represents the extreme development in a graded series. The Lapland Longspur (*Calcarius lapponicus*), an undisputed member of the genus *Calcarius*, has a bill almost exactly intermediate in size between those of the Chestnut-collared and McCown's. Ten males of *C. lapponicus* have bills ranging in depth from 6.0 to 6.4 mm. (average 6.13) and a range in width from 4.8 to 5.6 mm. (average 5.08). Comparison with the figures cited previously for the other species will demonstrate the intermediate bill size of *C. lapponicus*.

In many other important characters, the two species are extremely similar. Their habitats are different in just the way that closely related species which would offer maximum mutual competition may be expected to have evolved in order to reduce the biologically disadvantageous competition. In general habits, nest structure and egg pattern they are virtually identical.

For these several reasons it is recommended that the genus *Rhynchophanes* Baird 1858 be considered a synonym of *Calcarius* Bechstein 1802.

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