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NESTING OF LONG-BILLED CURLEWS ON CULTIVATED FIELDS

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During the spring and summer of 1986, I studied the distribution and breeding biology of five rare birds in the Oklahoma Panhandle: Ferruginous Hawk (*Buteo regalis*), Golden Eagle (*Aquila chrysaetos*), Prairie Falcon (*Falco mexicanus*), Mountain Plover (*Charadrius montanus*) and Long-billed Curlew (*Numenius americanus*). Long-billed Curlews are regular migrants through the western half of Oklahoma, and summer residents in the western two-fifths of the Panhandle as well.

Local farmers told me of finding curlew nests on cultivated land, but I was unsuccessful at verifying this. I did, however, gather circumstantial evidence. Between 20 April and 13 July 1986, I found 33 territories with either nests, chicks or agitated adult curlews at a total of 28 different sites. These 28 locations were in cultivated fields (14), native shortgrass prairie (13), and other grassland (1). The latter had been reseeded with non-native species. Most cultivated land was either fallow and plowed strictly for weed control or was planted to wheat (*Triticum aestivum*). The wheat fields variously contained growing plants, stubble or plowed stubble, depending on time of year.

Among the 28 locations with curlews, I found two nests, both in native prairie. At 13 locations, there were broods of young birds, seven of which were in cultivated fields (Fig. 1). Here, at least 18 chicks comprized eight broods. Six more broods at five other locations in native prairie totalled at least 12 chicks. I saw adult curlews that showed signs of agitation at 14 additional locations. Seven of these, (with probably

Fig. 1. Flightless young between two adults in wheat stubble in foreground; 13 June 1986; central Cimarron County. All photos by John S. Shackford

Fig. 2. Second known nest in a cultivated field; 27 May 1994; central Cimarron County. Nest contained four eggs.

Fig. 3. Recently-hatched chick in wheat stubble; western Texas County, Oklahoma; 25 May 1986.

eight broods), were on cultivated fields. Six others, (also with eight broods indicated) I found in natural prairie. Only one site (one brood), was in non-native grassland. Twenty-four of the sites (29 territories) were in Cimarron County and four others (four territories) in Texas County.

Although I did not see young curlews at any of the 14 locations where excited adults were present, there was little doubt that in each case, chicks, or perhaps older young, were nearby. This because adult curlews with nests nearby are quite stealthy and generally silent, and incubating birds flush only when nearly stepped upon. As soon as the young hatch, however, the adults become almost frantic, hovering overhead and giving distress calls to distract intruders who come too near the young. Other curlews from surrounding areas often fly in to join the din. This dichotomous behavior of adult curlews allows detection of young, even when they are not visible. In addition to the 28 probable breeding sites discussed above, I also suspected the presence of nests at several locations where I watched adult birds land quietly in fields of growing wheat, only to quickly disappear in the tall vegetation.

During 1993 and 1994, I conducted a study of agricultural fields as potential nesting sites for Mountain Plovers. This study took place not only in the Oklahoma Panhandle (primarily Cimarron County), but also in southwestern Kansas and southeastern Colorado. While engaged in this research, I also recorded valuable incidental data on Long-billed Curlews.

As Jack D. Tyler and I searched for Mountain Plovers on 27 May 1993 in several large, contiguous cultivated fields 7 km south and 1.5 km west of Keyes in Cimarron County, we noticed a pair of Long-billed Curlews flying not far away at 0800. Visually following them, we noted the spot where they landed, suspecting that they were near a nest. After a few moments, we drove directly toward the site.

Skies were mostly clear, the temperature near 55°F, and there was a west-southwest breeze of 20-25 km/hr. We were surrounded by flat, open wheat fields that had been plowed, but here and there, clumps of Mexican firebrush (*Kochia scoparia*), field bindweed (*Convolvulus arvensis*) or resprouted wheat interrupted the flat, monotonous countryside.

A short time earlier we had noticed a different pair of curlews half a mile to the northeast, and yet another of these large birds in aerial pursuit of a Chihuahuan Raven (*Corvus cryptoleucus*) or possibly an American Crow (*C. brachyrhynchos*). The

presence of these five curlews suggested the possibility of at least three nests nearby. The only other birdlife we noticed in this man-induced environment were numerous Horned Larks (*Eremophila alpestris*) and several Western Meadowlarks (*Sternella neglecta*). Although I found Mountain Plovers on these fields before and after this date, we saw none this day.

As we arrived at the place where the curlew pair had alighted, the female suddenly flushed from a nest virtually beneath our vehicle. Although we were driving very slowly and stopped almost immediately, a front wheel had already rolled through the nest, smashing the three eggs within. These had developed almost to the hatching point, but another egg six feet away that appeared to be addled was collected for the Cameron University Museum of Zoology in Lawton, Oklahoma. The highly vocal female bird (told by her longer bill and larger size) was very excited, repeatedly attempting to lure us away from the nest by feigning an injured wing as she ran along the ground.

The chances of a tire only 20 cm wide encountering a nest of similar dimension on this vast, open field of 64 ha (160 acres) would seem to be extremely slim. However, because we knew precisely where the adults had put down, we had approached the spot along a straight line-of-sight route. Nonetheless, both of us were genuinely surprised that the curlews had returned so directly to the nest. I was especially surprised because on many occasions while studying this species in 1986, adult curlews had been frustratingly wary in areas where I had suspected a nest.

Although the destruction of the nest was unfortunate, its "habitat" was of considerable ornithological interest. This was the first confirmed nesting of curlews in a cultivated field in Oklahoma and, to the best of our knowledge, no other exists elsewhere.

On 13 June 1994, a partly cloudy day with light winds and a temperature in the 70s, I found a second curlew nest on a cultivated field, also in Cimarron County. The location was 4 km north and 5.5 km east of Boise City. At 0900, as I was scanning a Mountain Plover study field with my 10x50 binocular, I noticed what appeared to be a curlew head near some low vegetation. Earlier, I had heard a few curlew vocalizations from this general direction. As I inspected the area more closely, I saw that it was indeed a curlew, because now visible were its back and long curved bill. This adult sat very low to the ground, as if on a nest. When I approached, the curlew flushed, revealing a nest with four large brown-splotched eggs. I photographed the nest, eggs, and surrounding habitat (Fig. 2).

The field had not been plowed within the preceding two weeks, and was essentially bare except for an occasional weed or two. When I returned on the evening of 18 June, it was being plowed, but on 11 July I found that plowing had ceased. The nest had been situated near the line where plowing was discontinued. Although I was not positive that the nest had actually been turned under, I found neither my marker, the nest, nor any curlews there during four subsequent visits (18 June; 11, 14 and 30 July).

During my studies of the Long-billed Curlew and Mountain Plover, it has been my observation that curlews found in cultivated fields tend to choose territories where some grassland is still present nearby. By contrast, many Mountain Plovers that I have observed on cultivated fields since 1992 have been some distance from native prairie. Thus, of the 14 cultivated areas where I found broods or evidence of curlew broods (agitated adults) in 1986, it is debatable as to how many of the broods actually originated from nests in cultivated fields rather than grassland. However, at least

two of these locations were far from grass of any type. The recently-hatched young curlew in Figure 3 was one such case. At a second location, the landscape was virtually devoid of grassland within the surrounding four square miles.

In November 1991, the Long-billed Curlew was downlisted from a Category 2 species to a Category 3C species by the United States Fish and Wildlife Service. This decision was based on the belief that the curlew population was not severely threatened and appeared to at least be maintaining itself. Part of any recent nesting success might be related to increased productivity on wheat fields. Because growing wheat is seldom tampered with in spring, except for isolated aerial crop-dusting, curlews nesting there stand a reasonable chance of success. Conversely, curlew nests on fallow land or in fields being prepared for planting, such as both nests found thus far, are vulnerable to plowing. Because such fields are plowed about every four to six weeks, and the incubation period is approximately 27-28 days (Graul, W. D., 1971, Observations of a Long-billed Curlew nest, *Auk* 88:182-184), birds would be hard-pressed to bring off a clutch between plowings. Further work on this subject is clearly warranted.

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GENERAL NOTES

Little Gull in Tulsa County, Oklahoma. — While studying birdlife at the Skiatook, Oklahoma, sewage ponds in southeastern Osage County on 27 March 1993, an unusual gull flew through our 25X spotting scope's field of view as we examined the assemblage of ducks on one of the ponds. We were soon able to locate it: an adult Little Gull (*Larus minutus*) in basic plumage. Several Ring-billed Gulls (*L. delawarensis*) and Bonaparte's Gulls (*L. philadelphia*) were also present.

Most prominent and distinctive of the Little Gull's plumage features was its dark gray (nearly black) underwing, accentuated by a brilliant white trailing edge. The bird's upperparts were pale gray, the tail white, and the head was white with a dusky black partial hood and black spot behind the eye. The bill was small and black, and when the bird stood on a plastic water barrier, its reddish legs and feet were visible. It was noticeably smaller than both the Bonaparte's and Ring-billed gulls nearby. In flight, the Little Gull's short rounded wings and buoyant, fluttery flight were diagnostic.