Tree Swallows to northern New Jersey on 6 April. That night the weather deteriorated to freezing temperatures and sleet-bearing northeast winds of 15–20 mph. Late the following afternoon (17:45, 7 April) I noticed that 24 swallows had ceased foraging in the sleet and wind and were roosting at very close quarters in an alder shrub (*Alnus* sp.) overhanging a small pond. The birds' postures suggested an attempt to conserve heat; breast and back feathers were raised and bills were tucked under the scapulars. Also conspicuous was the absence of preening, an activity common in diurnal swallow roosts.

Of the 24 birds in the shrub, 14 perched on separate branches, but in two instances two swallows shared the same branch, and triplets shared each of two other branches. Within these four groups, I estimated the distance between adjacent individuals through 7 × 35 binoculars from a position about 5 m perpendicular to the roost branches. The six inter-individual distances were 2.0, 1.5, 0.5, 0.5, 0.0 and 0.0 cm. One 0.0 cm pair were tightly appressed and appeared to be leaning toward each other rather than sitting upright. Five minutes later when I returned with a camera, all the swallows were gone.

Emlen (ibid.) did not see such contact perching during his extensive study of swallows under benign summer conditions, nor has it been reported elsewhere. Its presence here suggests that normal spatial separation in distance species can be overridden by contrary activity of high survival value; in this case huddling together likely husbanded energy reserves in the face of low temperature, high wind, and apparent scarcity of prey.—Thomas C. Grubb, Jr., *Department of Biology, Livingston College, Rutgers University, New Brunswick, New Jersey 08903.* Accepted 31 Apr. 72.

Snowy Owl predation on Lapland Longspur nestlings recorded on film.— During the summer of 1971 I investigated the breeding biology of the Lapland Longspur, *Calcarius lapponicus,* near Barrow, Alaska. To obtain data on incubation and feeding patterns of nesting longspurs, time-lapse cameras (Minolta Autopak-8 D6 super-8 movie cameras equipped with an Intervalometer-P time-lapse device) were positioned at several nests throughout the nesting season with an exposure interval of either 8 or 30 seconds. At 07:00 on 14 July a Snowy Owl, *Nyctea*

TABLE 1

Events at a Longspur Nest Recorded in Consecutive Frames by Time-lapse Photography

0657	Female on nest	———	(Photograph 1)
0657½	Female off nest	Owl near nest	4 young in nest
0658	" " "	" " "	4 young
0658½	" " "	Owl predation	———
0659	" " "	———	2 (?3) young
0659½	" " "	———	" "
0700	" " "	Owl near nest	" "
0700½	" " "	———	" "
0701	" " "	———	" "
0701½	" " "	———	" "
0702	" " "	Owl predation	(Photograph 2)
0702½	" " "	———	1 young
0703	" " "	———	" "
0720	Female on nest	———	———

scandiaca, took the three largest of four young at a nest being monitored at 30-second intervals (Figure 1). The nestlings were 4, 6, 7, and 8 days posthatching and weighed approximately 12, 15, 20, and 20 g respectively on 13 July.

Table 1 shows the sequence of recorded events. The owl made at least two separate feeding trips to the nest and obtained approximately 55 g live weight of young over a period of 5 minutes. Without the camera record, the emptying of this nest could have been mistaken for early fledging, especially as the smallest young remained in the nest and the owl left no sign of its visit. Longspur young at Barrow normally stay in the nest 6 to 8 days posthatching and fly 12 days posthatching (Maher, Condor, 45: 520, 1954).

To my knowledge Snowy Owl predation on longspur young has not been reported previously. Actually Snowy Owls are not major predators on longspur nests (pers. observ.); but with the early decline in 1971 of their major food source, the brown lemming, *Lemmus trimucronatus,* longspur young apparently served as substitute prey.

I wish to thank Alan P. Romspert who assisted in the field work. Frank A.

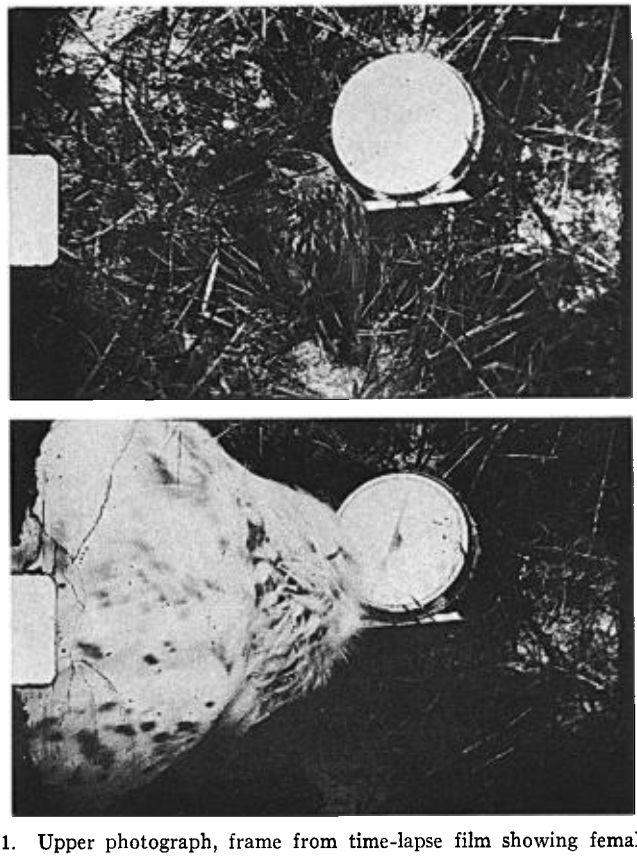

Figure 1. Upper photograph, frame from time-lapse film showing female Lapland Longspur on nest with four young, 14 July 1971. Lower photograph, 10 frames (5 seconds) later, Snowy Owl with its head into nest a second time, removing young (see Table 1).

Pitelka and Donald L. Beaver critically read the manuscript. This work was conducted under the I.B.P. Analysis of Ecosystems-Tundra Program and supported by a grant to F. A. Pitelka from the National Science Foundation.—THOMAS W. CUSTER, *Department of Zoology and Museum of Vertebrate Zoology, University of California, Berkeley, California 94720.* Accepted 9 May 72.

Growth and development of Long-billed Curlew chicks.—Compared with the altricial nestlings of passerines and the semiprecocial young of gulls, few studies of the growth and development of the precocial chicks of the Charadrii have been made (Pettingill, 1970: 378). In Europe, von Frisch (1958, 1959) described the development of behavior in 14 plovers and sandpipers. Davis (1943) and Nice (1962) have reported on the growth of Killdeer (*Charadrius vociferus*), Nice (1962) on the Spotted Sandpiper (*Actitis macularia*), and Webster (1942) on the growth and development of plumages in the Black Oystercatcher (*Haematopus bachmani*). Pettingill (1936) studied the atypical American Woodcock (*Philohela minor*). Among the curlews, Genus *Numenius*, only the Eurasian Curlew (*N. arquata*) has been studied (von Frisch, 1956). Because of the scant knowledge about the development of the young in the Charadrii and the scarcity of information on all aspects of the breeding biology of the Long-billed Curlew (*N. americanus*) (Palmer, 1967), I believe that the following data on the growth and development of Long-billed Curlew chicks are relevant.

I took four eggs, one being pipped, from a nest 10 miles west of Brigham City, Box Elder County, Utah, on 24 May 1966. One egg was preserved immediately for additional study, the others I placed in a 4′ × 3′ × 2′ cardboard box with a 60-watt lamp for warmth in a vacant room in my home until they hatched. I moved the three chicks to the aviary in Department of Zoology, Utah State University, on 31 May. After hatching, the three young were hand-reared on a diet of mealworms, earthworms, and chopped hard-boiled egg. The birds were color-marked for individual recognition at hatching. The young survived to ages of 5, 9, and 17 days respectively. They all died of a suspected bacterial infection. I weighed each bird to the nearest 0.1 g with a triple-beam balance, and with calipers measured the length of the exposed culmen, tarsus, and middle toe to the nearest millimeter. I made notes and took photographs of the color of soft parts, plumage, and behavior. I also gained information from a 7 week-old chick caught on 11 July 1966, 3.3 miles west of Logan, Cache County, Utah.

TABLE 1
GROWTH IN WEIGHT OF LONG-BILLED CURLEW CHICKS

Age (days)	Chick 1 Weight (g)	Chick 2 (7)[1] Weight (g)	Chick 3 (15) Weight (g)
0	56.6	55.6	57.6
1	53.8	55.1	55.9
2			64.7
3	63.3	68.6	
5			Died
6	68.2		
9	Died		
11		78.6	
17		81.2 (died)	

[1] Numbers 1–3 indicate sequence of hatching. Numbers in parentheses indicate number of hours each egg hatched following hatching of the first egg.