Great Basin Naturalist

Volume 45 | Number 1 Article 11

1-31-1985

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NOTE ON THE DIET OF LONG-BILLED CURLEW CHICKS IN WESTERN IDAHO

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Abstract.— The diet of Long-billed Curlew chicks is described for the first time. Five insect orders and one arachnid order were identified from nine stomach contents samples. Grasshoppers and carabid beetles were dominant prey items.

Chicks of precocial, nidifugous shorebirds are generally difficult to study because they are very mobile and hard to locate. As part of a larger study of Long-billed Curlew (*Numenius americanus*) behavioral ecology, we collected preliminary data on chick food habits. Owing to the difficulty of obtaining samples without sacrificing any chicks, the data are limited. Nonetheless, they are unique for Long-billed Curlews and rare for any nidifugous species.

The study area was a short-grass rangeland (ca 21,000 ha) lying between the Payette, Boise, and Snake River valleys in western Idaho (Redmond et al. 1981). We collected stomachs from six recently depredated chicks (aged 14–46 days) during June and July 1978. These were stored frozen until the contents could be removed in the lab. In addition, we took samples of stomach contents from three live chicks weighing at least 300 g (aged 34–44 days) during July in 1977 and 1978. As an emetic, we introduced a 1% solution of antimony potassium tartarate directly into the proventriculus (0.4 cc/100 g body mass, modified after Prys-Jones et al. 1974). Chicks were then held in a closed box until they regurgitated a sample (ca 10 min). Prior to release, each chick was fitted with a radio transmitter, and its subsequent movements and growth monitored for a minimum of four days posttreatment. All chicks survived this period with no visible ill effects from the emetic. Stomach contents were placed in 70% ETOH and then sorted according to taxon using a dissecting microscope, reference collections, and appropriate keys.

We identified five insect orders and one arachnid order from the nine stomach contents samples. Orthoptera were found in all nine, Coleoptera in eight, and Hemiptera, Lepidoptera (larvae), and Arachnida were found in just one each. Grasshoppers were the only orthopterans and carabid beetles the only coleopterans that we identified. As such, these two groups appeared to be important prey for Long-billed Curlew chicks.

Grasshopper eruptions on the study area generally began in late May, coincident with the annual peak of Long-billed Curlew hatching, and continued into August. By late June each year, grasshoppers were locally abundant, and they became more conspicuous through July. Given the collection times of our stomach contents samples, the dominance of grasshoppers was expected. A similar prevalence of carabid beetles, however, was surprising. These beetles appeared to be far more abundant earlier in the season (April–May). We suspect that, although grasshoppers might have been more numerous in June and July, their mobility reduced their overall vulnerability to Long-billed Curlew chicks. Conversely, a relatively slow-moving black beetle (Barrs 1979), once encountered, would be easy prey.

Because our ability to identify all material from the stomachs was limited by the nature of the samples (see Custer and Pitelka 1975), our data almost certainly underestimate the diversity of prey types taken by Long-billed Curlew chicks. We conclude that these chicks, like their parents (Sadler and Maher 1976, Bicak pers. comm.), take a wide variety of prey according to what is most available and vulnerable on the rangeland.

We thank George Kirsch for identifying material from stomach contents and Tom Bicak for assistance with field work as well as

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comments on the manuscript. Research was supported by the U.S. Department of Interior, Bureau of Land Management, through Contract YA-512-CT7-5 awarded to D. A. Jenni.

LITERATURE CITED

BARRS, M. A. 1979. Patterns of movement of radioactive carabid beetles. Oecologia 44:125–140.

CUSTER, T. W., AND F. A. PITELKA. 1975. Correction factors for digestion rates for prey taken by Snow Buntings (*Plectrophenax nivalis*). Condor 77:210–212.

PRYS-JONES, R. P., L. SCHIFFERLI, AND D. W. MACDONALD. 1974. The use of an emetic in obtaining food samples from passerines. Ibis 116:90–94.

REDMOND, R. L., T. K. BICAK, AND D. A. JENNI. 1981. An evaluation of breeding season census techniques for Long-billed Curlews (*Numenius americanus*). Stud. Avian Biol. 6:197–201.

SADLER, D. A. R., AND W. J. MAHER. 1976. Notes on the Long-billed Curlew in Saskatchewan. Auk 93:382–384.