

- BROWN, D. H. 1949. Glaucous Gulls diving for food. *Brit. Birds* 42: 95.
- CUMMINGS, S. G. 1914. Herring Gulls diving. *Brit. Birds* 7: 201-202.
- MAUNDER, J. E., AND W. THRELFALL. 1972. The breeding biology of the Black-legged Kittiwake. *Auk* 89: 789-816.
- PEARSON, T. H. 1968. The feeding biology of sea-bird species breeding on the Farne Islands, Northumberland. *J. Anim. Ecol.* 37: 521-552.
- STEINIGER, F. 1952. Bilder vom Tauchen der Silbermowe. *Vogelwelt* 73: 157-159.
- TINBERGEN, N. 1960. The Herring Gull's world. New York, Harper and Row.
- TOWNSEND, C. W., AND A. G. MORRILL. 1907. Birds of Labrador. *Proc. Boston Soc. Nat. Hist.* 33.

EDWARD H. BURTT, JR., *Department of Zoology, University of Wisconsin, Madison, Wisconsin 53706.* Accepted 20 Sep. 73.

Three more cases of White-crowned Sparrows parasitized by Brown-headed Cowbirds.—In a recent note Lewis (1973, *Auk* 90: 429) documents a case of a Puget Sound White-crowned Sparrow (*Zonotrichia leucophrys pugetensis*) parasitized by the Brown-headed Cowbird (*Molothrus ater*). Lewis concludes: "Cowbird parasitism of *Z. leucophrys* is rare and, to my knowledge, the above is the first recognized and fully documented case of such parasitism of the race *pugetensis* to be published." In view of this, perhaps my observation of three further cases is worthy of note.

Samish Island, Skagit County, western Washington is about 30 miles north of Lewis's study plots in a region where presumably only *pugetensis* breeds. In the 3 years I have lived on the island, I have seen adult White-crowns feeding young cowbirds out of the nest three times. On 6 July 1971 I saw a single White-crown accompanied by and feeding a single cowbird near my house. In 1972 I was away all summer. On 2 July 1973 about ½ mile from the 1971 locality, I saw an adult White-crown feeding, or being clamorously pursued by, a young White-crown and three young cowbirds (possibly four—it was difficult to be certain in the confusion). As individual cowbirds rarely lay more than two eggs in the same nest (Bent 1958, U.S. Natl. Mus. Bull. 211: 434, 437), the three or more young cowbirds I saw possibly constitute parasitism of this brood by at least two different cowbirds. Then from 16-20 August 1973 a third White-crown brought two young cowbirds regularly to a feeder near my house where it fed them bird seed.

If cowbird parasitism of *pugetensis* is indeed rare, then these three (or four?) occurrences 2 years apart in the same place (considering I was not present during the intervening year) may indicate that the original cowbird or perhaps some of its offspring have imprinted on the host species—as the Common Cuckoo (*Cuculus canorus*) is known to do. Recent evidence shows host specificity does occasionally occur in cowbirds (Friedmann 1971, *Auk* 88: 238).

Another explanation for the paucity of records exists. The A.O.U. Check-list (1957, fifth ed., Baltimore, Amer. Ornithol. Union) shows that as recently as 1957 the ranges of *pugetensis* and *M. ater artemisiae* (the northwestern race of the cowbird) overlapped very little—so limited opportunity for interaction. From approximately 1960-65 cowbirds spread rapidly over the range of *pugetensis* (Larrison 1968, Washington birds: their location and identification, Seattle, Washington, Seattle Audubon Soc., p. 227) until they may now be considered abundant in western Washington.

Perhaps the cowbirds were pressured by their own population density (Lewis (ibid.) records his instance in an area "of especially high cowbird abundance," as is my region). The fact that they are relatively new colonists here and that some of their most important traditional hosts, the flycatchers and warblers (except the Orange-crowned Warbler, *Vermivora celata*), have become "noticeably fewer" in this region over the same time period (Larrison ibid.: 215) may have led them to experiment with new host species. In this case an increasing number of records of local cowbirds using previously uncommon hosts may be expected. In addition to the three White-crown records, I watched a pair of Orange-crowned Warblers feeding a single cowbird on 1 August 1973, also on Samish Island. Friedmann's 1971 study records only three previous records for this host, two of them just north of here in British Columbia. On 2 August 1973 I saw a Golden-crowned Kinglet (*Regulus satrapa*) feeding a young cowbird near Bellingham, Washington. Friedmann records only two previous records for *M. ater artemisiae* using this host, both from British Columbia.

As a point of methodology, cowbirds and their hosts are discovered easily once one has tuned his ear to the young cowbird's loud and characteristic food-begging note.—NORMAN LAVERS, 873 Samish Island Road, Bow, Washington 98232. Accepted 26 Sep. 73.

Homing experiments with Audubon's Shearwaters.—Audubon's Shearwater (*Puffinus lherminieri*), a pantropical species, is recorded as nesting on islets in the Caribbean, the Bahamas, and in very small numbers on Bermuda. Outside the breeding season the shearwaters from the Caribbean probably disperse widely, for in late July, August, and September individuals are seen off the east coast of North America, following the Gulf Stream almost as far north as the North Atlantic Drift (Post 1967, Bird-Banding 38: 278). No evidence exists for extensive migration (Palmer 1962, Handbook of North American birds, New Haven, Yale Univ. Press).

For homing experiments adult shearwaters were taken from their nests at two breeding colonies in the southern Caribbean: Little Tobago (11° 17.5' N, 60° 30' W) and Espenqui in the archipelago of Los Roques (11° 50' N, 66° 45' W). During the releases of birds from Little Tobago (studied 13 February–4 March 1968) the breeding adults had eggs in burrows in the soil; 21 birds were taken for release on other islands in the Caribbean (two birds were released twice). During the releases from Espenqui (studied 12–24 April 1969) most of the breeding adults had chicks in crevices between lumps of coral; 26 adults were released at coastal and inland sites in Venezuela. Shearwaters selected for the homing experiments were, so far as possible, those that had just started a bout of incubation (these usually last several days). Each bird was banded and carried to the release site in an individual compartment of a cardboard box. For the 1968 releases the intervals between capture and release were 24–40 hours; in 1969 the corresponding intervals were 8–14 hours. The shearwaters were released singly in daylight and watched through binoculars as long as possible. At least 5 minutes elapsed between last sight of one bird and release of the next. Burrows or nesting crevices were checked thereafter for up to 17 nights. Initial headings of the 10 shearwaters released under sunny conditions at the only inland release site (Anaco, Venezuela 78 km from the coast) were approximately homeward ($P < 0.01$, Watson and Williams test) but perhaps of greater note is the fact that 5 of the 10 birds circled to great heights before being lost to view after at least 3 minutes. Birds released at or near the coast appeared to head out to sea without reference to home direction.