

NESTING AND FEEDING OF THE BLACK OYSTER-CATCHER NEAR MONTEREY, CALIFORNIA

By KEN LEGG

About fifteen pairs of Black Oyster-catchers (*Haematopus bachmani*) are resident at Point Lobos Reserve a few miles south of Monterey, California. For the most part they nest on offshore inaccessible islands. However, in the years 1951 and 1953, a pair nested on an accessible part of the mainland. Webster (Wilson Bull., 53, 1941:141-156 and Condor, 43, 1941:175-180) has already reported a study of the breeding habits and feeding of the Black Oyster-catcher in Alaska. My findings, while similar in most respects, serve to substantiate Webster's report as well as to provide new information from a more southern point in the oyster-catcher's breeding range.

On June 10, 1951, a nest was found on a high conglomerate flat devoid of practically all vegetation. The nest, placed on a point projecting seaward, contained two eggs and was composed of about a quart of small angular pebbles carried to the site. The nest was several hundred yards from any well used trail, but a person walking along the nearest trail appeared to the incubating birds below as a silhouette against the skyline. Each time a human appeared on the trail, the incubating bird would steal quietly from the nest. On Sundays, when visitor traffic was greatest, the birds were absent from the eggs for prolonged periods, probably for the entire afternoon. During this particular year, fog and cold winds were unusually prevalent, with the sun shining hardly at all. The eggs probably became chilled during one of the extended periods when incubation was not in progress, for they did not hatch. The incubation period of the Black Oyster-catcher is from twenty-seven to thirty days. It is interesting to note that this pair incubated until August 4, a total of 55 days, or just double the normal period. On this date the nest was deserted and the eggs later disappeared.

There was no nest on the point in 1952, but on May 24, 1953, a nest with one egg was found. It was six feet from the nest of 1951, and it was likewise composed of small angular pebbles. It was beside a six-inch clump of spurrey, the only plant on the table-like rock. On May 25, there was still one egg. On May 26, there were two eggs and at 5:30 p.m. one of the birds was incubating. Human interference was similar to that of 1951, but the weather was dryer, sunnier and warmer, and although the eggs were left uncovered as long as in 1951, the warmer days apparently kept them from chilling.

On June 21, at 8:00 p.m., approximately twenty-six days after incubation began, one egg was cracked. Peeping and scratching could be heard from within the shell. At 11:30 a.m. on the following day there was no visible development beyond that of the previous day, but one young was calling loudly from inside the shell in a voice which already resembled somewhat the parents'.

On June 22, at 8:00 p.m., neither young was out of the egg but both were now calling loudly. At 7:30 a.m. on June 23, the twenty-ninth day, one egg had a small hole. At 7:00 p.m. on this same date, both young were out of the egg and one was dry.

Since the littoral marine fauna of Point Lobos is markedly different from that of the Alaskan coast studied by Webster, it seems advisable to report food items in the diet of the young oyster-catchers. Webster (Condor, 43, 1941:175) states that "the best method of determining the food of the Black Oyster-catcher . . . is to collect the shells scattered around young birds which are being fed by the parents." My nest of 1953 was exceptionally suitable for a study of this type because it was on a pedestal-like column separated from any other flat area by a small chasm a foot across, and although

I could easily cross this, the young oyster-catchers were confined to a round area about eighteen feet in diameter.

Prior to hatching of the eggs all weathered shells, fish bones and other loose objects were cleared from the nest site. Until July 8, at age fifteen days, the parent birds were observed bringing food to both young. On this date one young disappeared. On July 17, at an age of 24 days, the second young disappeared. During this time at least 457 shelled invertebrate animals were carried to the young. Although most of the shells were recovered, some were seen to go flying off into space and into the water as the parent, holding the meat in its bill, flicked the shell off. A few which became lodged on the vertical side of the rocks are included in the count.

Table 1

Size Distribution of Limpets Taken by Black Oyster-catchers

Range in centimeters	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	Totals
<i>Lottia gigantea</i>	1	19	165	106	24	6	0	1	322
<i>Acmaea digitalis</i>		8	4						12
<i>Acmaea scutum</i>			3	2					5
<i>Acmaea scabra</i>		4							4
<i>Acmaea limatula</i>				1					1
<i>Acmaea pelta</i>		8	49	10					67
	1	39	221	119	24	6	0	1	411

The chief food brought to the young was limpets, particularly the owl limpet (*Lottia gigantea*) which is common on exposed, wave-swept rocky coasts where oyster-catchers occur. Species of limpets preyed upon and their size ranges are summarized in table 1. This lot also included one small shell of *Haliotis rufescens* and 11 uneaten limpets that fell from other shells (7 *A. scabra* and 4 *A. pelta*). These specimens were identified by Drs. Frank A. Pitelka, Harry K. Fritchman, and Allyn G. Smith.

Thirty-four food items were identified earlier from the same nest by Mr. Merton Hinshaw of the Pacific Grove Museum of Natural History, as follows:

<i>Thais emarginata</i> , 4	<i>Acmaea scabra</i> , 5	<i>Nuttalina californica</i> , 1
<i>Lottia gigantea</i> , 3	<i>Diadora aspera</i> , 1	<i>Acmaea scutum</i> , 10
<i>Acmaea mitra</i> , 1	<i>Haliotis cracherodii</i> , 2	One small mussel shell
<i>Acmaea</i> sp. (small), 3	<i>Acmaea digitalis</i> , 3	Several fragments of crab carapace

Although the California mussel (*Mytilus californianus*) is an important food item of adult oyster-catchers, observations show that almost none was brought to the young.

Natural Bridges State Park, Santa Cruz, California, July 6, 1954.