

In removing young from a nest for measuring and weighing, I occasionally tripped a counter by accident. One morning this happened at a nest (F) that contained five young, ages 7 to 8 days. (The normal brood size is three or four, but I had placed an additional nestling in this nest.) The young started to beg loudly, which is a difficult response to elicit from this species in the nest. I purposely pressed down on the bar several times, each time obtaining the same response. I also tried waving my hand in front of the nest, produced noise and vibration by tapping the wire collar and the nest itself, and stuck my hand into the nest without touching the young, but none of these actions caused begging. When the battery was disconnected, pressing the bar failed to elicit the begging response. These experiments were repeated several times that day with the same results. I tried the same at two other nests, one with four young, five to six days old, and another with three young, 10 days old, but no responses were noted. On the other hand, in one nest with four young, five days old, weak begging responses to my presence and disturbance were noted three times that day. But these consisted only of gaping and were not accompanied by begging cries. Also, it was noted at nest F later that afternoon that a few of the young would beg at my approach. Early the next morning I noted that the response was still strong. But after I had removed the young for measuring and weighing and replaced them, I was not able to elicit begging by pressing the bar. Observations were not carried beyond this point except to record that all five young fledged successfully at ages 20 to 21 days.

It must be concluded that the nestlings were conditioned to beg when hearing the noise made by the counter. Usually this would immediately be followed by the appearance of an adult with food. Normally, the young beg when the adult appears. That this response was conditioned to a related stimulus only in the one nest with the abnormally large brood suggests that the conditioning was enhanced by competition among the nestlings for the food brought by the parents.—ROBERT E. RICKLEFS, *Department of Biology, University of Pennsylvania, Philadelphia, Pennsylvania 19104.* (Present address: *Smithsonian Tropical Research Institute, Box 2072, Balboa, Canal Zone.*) 16 November 1966.

Nocturnal Feeding of *Sterna fuscata* and *Puffinus pacificus*.—On the night of 4 August 1963, while participating in the Pacific Ocean Biological Survey Program of the Smithsonian Institution, I was on a ship which passed through a feeding flock of Wedge-tailed Shearwaters (*Puffinus pacificus*) and Sooty Terns (*Sterna fuscata*). Since records of this sort are rare in the literature, and since they are very important in expanding our knowledge of the natural history of seabirds, a condensed account of this observation is presented in the following note.

Location: 16° 59' N by 169° 11' W, ca. 20 miles east of Johnston Atoll, Pacific Ocean. Time: 2330 to 2345. Environment: moon, full; air temp., $26.7 \pm 0.1^\circ$ C; sea surface temp., $29.7 \pm 0.3^\circ$ C; wind ca. 11 knots from east; sea, relatively calm; sky, scattered clouds. Equipment, heavy battery-powered flood light, 7 × 35 wide-field binoculars.

As many as 20 Sooty Terns and 10 Wedge-tailed Shearwaters were observed at one time, but total numbers were undoubtedly much larger, perhaps reaching as many as 100 birds. An accurate estimate was impossible because of the limited field of the flood light and the constant erratic movements of the birds. The ship, moving at about eight knots, apparently passed through a relatively stationary flock since the first birds encountered around 2230 hours were milling about but not actively feeding. Increasing numbers of both species were seen, culminating in large numbers actively feeding, at 2345 hours. After this time numbers thinned out, and no more feeding was observed.

Wedge-tailed Shearwaters were observed to plunge into the water after small fish about three inches long. Often they would chase the fish by paddling awkwardly along the surface with their head and neck beneath the surface. When a fish was caught, the bird would rise into the air and swallow it in midflight by a slight upward flip of the head. The Sooty Terns were apparently feeding by capturing the fish at the surface without hitting the water. The Terns were constantly calling as they dashed back and forth low over the water.

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