

INCUBATION PERIOD

EGG-LAYING

After copulating and then working on a scrape for several days, the female Sooty Tern lays a single egg. All 14 eggs whose time of laying I was able to determine accurately were laid in the afternoon: 5 between 12:00 and 14:00, 5 between 14:00 and 16:00, and 4 from 16:00 to 18:00. Ridley and Percy (1958) and Ashmole (1963) also note that Sooty Terns usually lay their egg in the afternoon.

After the first eggs were laid on 1 April 1968, egg-laying gradually spread through the island. The first eggs were laid on my plot on 9 April and the peak of laying there was 15 April.

Usually both members of a pair are present when the egg is laid. The female crouches low in the scrape while the male stands nearby, occasionally walking around her or poking at the ground. After laying the egg the female almost immediately leaves, walks around it, and the male takes over. He pokes at the egg, rolls it into the scrape if it was laid on the edge, and in general worries over it before finally settling down to shade or incubate it. Usually the female flies within about 10 minutes, apparently to drink and dip, as she often returns with her breast feathers wet. The two then stay near the egg, first one and then the other shading or incubating it. Exchanges now, as later in incubation, consist of one bird forcing the other off the egg and then taking over care of it. Exchanges are frequent during the first few hours after the egg is laid, but by early the following morning the male assumes care of the egg and the female is absent, presumably feeding.

During incubation and to some extent after hatching, besides noting which adult cared for the egg and the adult's general behavior, I maintained records of activity patterns of 15 pairs in the following manner: I made a complete catalog of the bird's activities, described below. I knew the date of laying and I could distinguish the sexes of each of these pairs. In the activity records, every 30 seconds I made a 1-second "spot" observation and record of the bird caring for the egg, assigning the bird's activity to one of several readily identifiable categories (e.g. incubating, shading the egg, off the egg and preening, etc.). I used this method to make 120 observations per hour per nest for 1-hour periods throughout incubation.

One fault of this method is that by cataloging activities, some slightly different activities must be grouped in a single category. The categories with the most variety are those that occur when the adult is off the egg, and as the adults either incubate or shade the egg more than 90 percent of the time, this variation is only a small fraction of all the birds' activities.

I analyzed these activity records by sex, hour of day, and date in the incubation cycle, excluding all 1-hour watches in which exchanges occurred. During incubation, I have records for 1,632 bird-hours, each