

in open sunlight, their body temperatures rise to the lower range of black bulb temperature and then level off (Howell and Bartholomew, 1962). Chicks may help stabilize body temperature by panting, facing away from the sun, drooping the wings, and erecting the back feathers, much as adults do when it is hot. A few of my tethered chicks died in open sun when about this age, apparently from heat stress. Thus body temperature must closely approach lethality when chicks are exposed to open sun.

Juveniles seem to leave the colony soon after they learn to fly, as there seldom are many flying juveniles at Bush Key at any given time. As they do not feed near Bush Key, little is known of their activities. In all probability, the adults stay with the young and continue to feed it until it can capture food by itself (Robertson, 1964; Burckhalter, 1969) as do adult Royal Terns and other terns (Ashmole and Tovar, 1968). Bush Key adults cannot feed flying Sooty Tern young more than about 2 months, as all juveniles leave the range of adults by mid-October and some have done so by early August (Robertson, 1969). This certainly must be a difficult time for young Sooties, as they must learn to capture food while on the wing, a skill requiring good eyesight, coordination, and timing. Perhaps the long fledgling period of Sooty Terns in comparison to those of coastal terns (see Table 7) is an adaptation to compensate for the reduced period of time when adults can care for the young.

#### OTHER AERIAL ACTIVITIES

##### THERMAL SOARING

Sooty Terns at Bush Key commonly soar in dense circling columns during midday hours on hot days. Possibly at these times updrafts or thermals develop near Bush Key. The columns approach 200 feet in diameter and may go as high as 1,000 feet in altitude, although most birds are usually below 200 feet. Within the columns the birds circle as they climb and may then soar off to join another column. Most common late in the breeding season, these columns of soaring birds are taller and the birds appear to fly faster than in the flocks seen as the colony forms. Usually the terns are silent as they soar but occasionally one gives a "wid-ik" call.

Soaring often continues for several hours, although the composition of the flock changes continually and birds join or leave it. The columns often move laterally and two may merge into a single column. Magnificent Frigatebirds (*Fregata magnificens*) and occasionally Brown Pelicans (*Pelecanus occidentalis*) and Laughing Gulls (*Larus atricilla*) (Harrington, pers. comm.) join these flocks, but I did not see Brown Noddies do so.

##### FLY-UPS

A rather common activity in Sooty Tern colonies, especially when chicks are present, is for one or more adults to fly straight up 1 to 5 or more feet, give a loud "wide-a-wake" call at the peak, and drop back to the