

to the families and subfamilies reported here to side-step or side-hop, probably many others also exhibit such behavior, which possibly occurs in all birds that perch. Side-stepping involves a sideward motion of the legs relative to the anteroposterior axis of the trunk, and an indication of a potential ability for such sideward movement is seen for many species in the varied separation of the legs and feet on different perches (pers. obs.). Ability to side-step does not preclude walking along suitably wide branches, as I have seen in the Common Grackle (*Quiscalus quiscula*). Furthermore, the use of side-stepping as opposed to side-hopping does not appear to be directly linked with the use of asynchronous (walking, running) versus synchronous (hopping) terrestrial gaits, as side-stepping occurs in species such as the cardueline finches that typically hop over the ground.

Most of my observations were made on wild birds, but watching captives yielded proportionately more records of side-stepping and all records of side-hopping. In watching captive Starlings I quickly saw side-stepping over short distances but obtained only one equivocal record of this behavior in many observations on perched wild Starlings. The relative scarcity of field observations of side-stepping and side-hopping is conceivably attributable to the difficulty in continuously viewing wild birds due to their often extended flights between perches, the effects of foliage and other objects in concealing movements, and the possibility that for some species caged individuals side-step or side-hop more frequently than do birds in the field.

#### LITERATURE CITED

- HAILMAN, J. P. 1960. Song Sparrow feeds on dandelion by unusual method. *Auk*, **77**: 349-350.
- . 1973. Double-scratching and terrestrial locomotion in emberizines: some complications. *Wilson Bull.*, **85**: 348-350.
- HARDY, J. W. 1974. Behavior and its evolution in Neotropical jays (*Cissilopha*). *Bird-Banding*, **45**: 253-268.
- WILLIS, E. O. 1968. Studies of the behavior of Lunulated and Salvin's Antbirds. *Condor*, **70**: 128-148.
- GEORGE A. CLARK, JR., *Biological Sciences Group, University of Connecticut, Storrs, CT 06268.*  
Received 18 August 1978, accepted 22 October 1978.

**An Artificial Nest Structure for Least Terns.**—The Least Tern (*Sterna albifrons*) often nests on beaches just above the high tide line. Where the tidal range is moderate to great, spring tides wash out many nests. In five years of working with the species in northeast Florida, we have seen hundreds of nests inundated. Therefore, a structure that raises the nest even a few inches may be of significant benefit to some nests.

Our structure is a discarded tire. A nest is selected near the high water mark, one likely to be inundated before the young hatch. Study the area before you begin, to get an idea of the nesting substrate. Place the tire over the nest with the eggs in the center. Carefully remove the eggs and lay them aside in a safe place. Fill the tire with sand. Pack the inside of the casing tightly. If any space is left the sand will settle, the nest will sink, and the bird may desert. Level the platform and restore the area around the tire to its previous appearance. This may involve scattering shells or dry sand on top. In many cases we have gathered the shells lining the nest, set them aside with the eggs, and replaced them later. Bank sand up around the edge of the tire to hide it; make it look like a pile of sand with the nest on top. The banked-up sand also provides a ramp for the chicks to walk down when they leave the nest, rather than simply falling off the edge. Excavate a scrape the size of the original and replace the eggs.

Tests of this method were conducted in the summer of 1978 at a colony near Jacksonville, Florida. Three groups of nests were designated as: high nests (above the highest tide), low nests (in danger of inundation), and tire nests (low nests that we transplanted to tires). Nests where the final outcome was unknown were omitted from the study. We ascertained the final outcome on 21 high nests, 11 tire nests, and 24 low nests.

The first question we asked was whether or not transplanting nests to tires caused the terns to desert. The Least Tern is a highly adaptable species which will tolerate much disturbance at the nest site. Adults returned to the nest in less than 10 min after transplanting. Only 9% of the tire nests were abandoned (1 of 11), but this was about the same as the 9.5% (2 of 21) rate for high nests and only slightly more than the 6.6% (3 of 45) rate for all nontire nests. Moreover, the abandonment of the tire nest did not take place immediately because we saw the bird return to the nest at least once. We concluded that transplanting nests to tires does not cause desertion.

The second question we asked was whether or not nests on tires were less productive than other nests. We thought it possible that nests on tires might be more visible to predators or more susceptible to human interference. Over the season no significant difference was found ( $P > 0.01$ ) between tire nests and high nests (71% vs 73%), but both exceeded low nests by a wide margin. The hatching rate for low nests was only 21%.

The third question we asked was whether or not putting nests on tires saved them from high tides. Over the season, 67% of the low nests failed because of high water whereas only 9% of the tire nests failed for this reason. This figure is essentially meaningless because far more low nests were active during periods of high water. Of the low nests, 67% were active during high water whereas only 36% of the high nests were active during high water.

Of a small sample of nests active during a period of high water on 19 June, all the high nests were successful (4 of 4), all the low nests were inundated (13 of 13), and 50% of the tire nests were successful (2 of 4). Of these 4 nests on tires, 1 was saved from inundation by the tire and later successful, 1 was saved and later deserted, 1 was washed out despite the tire, and the high water failed to reach the fourth, which was finally successful. Although this is a small sample, it is intuitively plausible that nests raised a few inches would stand a better chance than low nests; therefore we feel justified in concluding that some nests of the Least Tern can be saved by transplanting them to tires. Where the tidal range is low, the method would probably be less successful than in Jacksonville where it is up to 6 ft. Information on tidal range and when high tides are expected can be obtained from the *Tide Tables* published by the National Ocean Survey, Rockville, MD.

Preliminary attempts to use this method on Black Skimmers (*Rynchops nigra*) and Gull-billed Terns (*Gelochelidon nilotica*) failed because the birds deserted the transplanted nests. This indicates that this method should be used with common sense and a bit of caution. Disturbance of the nest of any wild bird may cause it to desert; therefore, we do not recommend this method for inexperienced persons. In the hands of refuge personnel, banders, or other experienced persons, we feel that this method may be of some benefit to a species that is threatened or endangered in many parts of its range.—ROBERT W. LOFTIN AND LESLIE A. THOMPSON, *University of North Florida, Box 17074, Jacksonville, FL 32216*. Received 16 October 1978, accepted 22 November 1978.

**Growth of Nestling Savannah Sparrows.**—During a study of the breeding biology of the Horned Lark (*Eremophila alpestris*) at Cape St. Mary's, Newfoundland (46°47' N, 54°12' W) the nests of four Savannah Sparrows (*Passerculus sandwichensis*) were found in moist *Osmunda cinnamomea-Sanguisorba canadensis* (Cinnamon Fern-American Burnet) habitat. Meades (1973) and Cannings and Threlfall (unpubl.) provided detailed descriptions of the study area. The nests contained 3, 4, 4, and 5 eggs, respectively.

Despite the fact that much is known about this polytypic species—its distribution, plumages, nests, egg sizes and colors (Bent, 1968), little is known about nestling growth. Maher (1972) discussed their growth in Saskatchewan. Therefore, when the aforementioned eggs hatched, the nestlings were weighed (Pesola 50-g spring balance) and measured, on a daily basis (early morning), if possible, until the birds fledged, utilizing the methods outlined by Cannings and Threlfall (unpubl.).

Measurements of 16 chicks are given in Table 1. Of the chicks that hatched, 12 fledged, the others disappearing from nests. The chicks fledged between 9 and 11 days ( $\bar{x} = 10.4$ ). The tarsus grew most rapidly, reaching 95.8% of the fledging size by seven days. Weight gain was slower, reaching only 83.3% of fledging weight by day 7 and wing length only 69.2%.