

than some fading of the red. We use a 5 lb mallet and a metal wedge stake to drive the initial hole in hard ground or coral, but the pipe itself can be driven into soft soil. It is useful to locate the marker on a specific side of all nests for consistent reference from year to year. We thank the National Science Foundation, National Geographic Society, and T. L. Cross for support.—ELIZABETH ANNE SCHREIBER AND RALPH W. SCHREIBER, *Natural History Museum, 900 Exposition Blvd., Los Angeles, California 90007*. Received 16 June 1985; accepted 2 Sept. 1985.

A Possible Reason for Age-differential Foraging Success in Brown Pelicans.—

Numerous studies of piscivorous birds (reviewed by Brandt 1984) show that adults forage more efficiently than immatures. Among the proposed reasons for the observed disparity are that immatures have less efficient prey capturing and handling skills (Dunn 1972, Morrison et al. 1978, Orians 1969, Quinney and Smith 1980, Schnell et al. 1983, Searcy 1978, Verbeek 1977) or possible differences in choice of foraging area (Brandt 1984). The disparity in food capturing efficiency implies that younger animals expend more energy per capture than adults and probably hunt for longer periods of time before reaching satiation (Buckley and Buckley 1974, Burger 1980, Morrison et al. 1978), thereby putting themselves in a more precarious position regarding survival.

Beginning in December 1982, I watched adult and immature Brown Pelicans (*Pelecanus occidentalis*) feeding by plunge-diving on mixed aggregations of redear herring (*Harengula humeralis*) and false pilchard (*Harengula clupeola*) in Great Lameshur Bay, St. John, U.S. Virgin Islands. Casual observations indicated that adults were more successful than immatures, which supported the results of Orians (1969), Schnell et al. (1983), and Brandt (1984).

What aspects of hunting behavior predisposed immatures to lower success? I could not distinguish differences in the technique of plunge-diving or in the localities of the plunge-dives. However, I noticed a difference in the behavior preceding a dive. Adult pelicans often wheeled as if beginning a plunge dive (seen as a mid-flight pause either with the body wheeling to point in a more downward direction or the body pitching upward with the bill pointing down) and then resumed their searching flight pattern. This behavior appeared to allow a brief evaluation of the individual's probability of success with resumption of flight if the probability was deemed too low. I never saw immature pelicans pause or turn without completing the plunge-dive. This difference may have indicated that adults were better able to discriminate against plunge-dives whose failure was predictable. For search flights that I timed during March–April 1983, those of adults (time from takeoff until re-entry, $\bar{x} = 23.5$ s, SE = 1.35, $n = 114$) were significantly longer (t -test, $P < 0.01$) than those of immatures ($\bar{x} = 14.2$ s, SE = 2.07, $n = 45$).

Immature pelicans may have physical skills similar to those of adults, but simply be less able to correctly evaluate the probability of successfully capturing particular fish. Alternatively they may be less patient. Lack of success could increase hunger in an immature, and thus increase the likelihood of an impatient, premature dive.

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- BRUCE E. COBLENTZ, *Department of Fisheries and Wildlife, Oregon State University, Corvallis, Oregon 97331-3803.* Received 22 Aug. 1985; accepted 5 Nov. 1985.

A Simple Trap for Catching Birds in Nest Boxes.—Hole-nesting birds can be easily caught inside a nest box with the use of traps. A variety of traps have been described (Cohen and Hayes, *N. Am. Bird Bander* 9:10-11, 1984; Dhondt and VanOutryve, *Bird-Banding* 42:119-120, 1971), including a radio-controlled device (Lombardo and Kemly, *J. Field Ornithol.* 54:194-195, 1983). We describe a simple automatic trap that is useful for catching birds without monitoring the nest box.

This trap consists of a square plate of aluminum (5.8 × 5.8 × 0.2 cm) with smooth edges that weighs approximately 20 g (Fig. 1). The plate is affixed with 2 short (8 cm) strips of masking tape to the inside of the box just above the hole, such that the tape acts as a hinge to the top of the plate. The plate is then propped up with a thin stick or stiff piece of grass. The innermost edge of the plate should be raised high enough that it is not visible from the front of the box. When the bird enters the nest box, it knocks the support stick aside, and the plate drops on its hinge to cover the hole. The trap takes very little time to install (<20 s), so is left in the box only when attempting to catch birds.

We have used this trap extensively to catch Tree Swallows (*Tachycineta bicolor*) in two populations near the Queen's University Biological Station, 50 km north of Kingston, Ontario. We have also caught several Eastern Bluebirds (*Sialia sialis*) nesting in the area. We often had 15 traps set simultaneously, and moved traps from box to box after catching the residents. Boxes with traps set in them were left unattended for a maximum of 30 min. Automatic traps must be monitored regularly, and removed at the end of the day so that birds are not trapped in the nest box for long periods.

In the 1985 breeding season we made a total of 263 captures of Tree Swallows, including recaptures, with this trap. These consisted of 51 males, 201 females, and 11 birds of unknown sex. The bias toward females is due to the higher likelihood of females entering the nest box during nest building and incubation, and our own banding effort in which we deliberately caught many females several times during the season. We had no difficulty in catching males, and provided them with feathers to induce them to enter nest boxes during the incubation period (Cohen, *N. Am. Bird Bander* 10:18-21, 1985). Both males and females readily entered the nest box, and few seemed disturbed on approach to the box. We caught 35 individuals at least 3 times during the nesting period, which suggests that most birds do not become wary of the trap over time. There were no fatalities or injuries caused directly by the trap, nor was there damage to nest contents. Females rarely abandoned their nest after capture, and we avoided catching females during egg-laying since this can decrease their reproductive success (Burt and Tuttle, *J. Field Ornithol.* 54:319-323, 1983). Our method of trapping was effective until the nestlings became large enough (about 15 d) to activate the trap.

This nest trap is very inexpensive, simple to make, portable, and can be modified to