

*Wilson Bull.*, 94(1), 1982, pp. 82–83

**Differential hunting success in a group of Short-eared Owls.**—Differential hunting success between adults and immatures has been documented for a number of avian species, e.g., Adie Penguin (*Pygoscelis adeliae*) (Ainley and Schlatter, *Auk* 89:559–566, 1972); Brown Pelican (*Pelicanus occidentalis*) (Orians, *Anim. Behav.* 17:316–319, 1969); Olivaceous Cormorant (*Phalacrocorax olivaceus*) (Morrison et al., *Wilson Bull.* 90:414–422, 1978); Little Blue Heron (*Florida caerulea*) (Recher and Recher, *Anim. Behav.* 17:320–322, 1969); and Sandwich Tern (*Sterna sandvicensis*) (Dunn, *Ibis* 114:360–366, 1972). All of the above species are single-brooded, lay small clutches, have relatively long periods of post-fledging parental care (in the form of direct feeding), and exhibit delayed reproduction. Ashmole and Tovar (*Auk* 85:90–100, 1968) hypothesized a relationship between the length of time required by young birds to attain hunting skills equal to adults and certain life-history characteristics; young individuals of species with the life-history characteristics listed above were predicted to attain hunting skills equal to adults over a relatively long period of time. Conversely, young individuals of species with opposite life-history characteristics were predicted to attain hunting skills equal to adults over a short period of time. This study documents an example that may differ from the prediction of Ashmole and Tovar (1968).

The Short-eared Owl (*Asio flammeus*) occurs over most of continental North America and is known to shift locally and regionally, presumably in response to the abundance of its major food, voles (*Microtus* spp.) (Clark, *Wildl. Monogr.*, No. 47, 1975). *A. flammeus*, in contrast to the species listed above, lays relatively large clutches, apparently is multiple-brooded in middle latitudes (Lockie, *Bird Study* 2:53–69, 1955), and has a short period of post-fledging parental care (in the form of direct feeding) (Clark 1975), but exhibits considerable flexibility with regard to time and locale of breeding and clutch-size. Thus, based on the hypothesis of Ashmole and Tovar (1968), young individuals of *A. flammeus* are predicted to have attained hunting skills equal to adults.

During a period from 24 January to 30 January 1976, we observed a group of *A. flammeus* consisting of three individuals: one individual was completely white underneath, leading us to believe that this individual was an adult male (Bent, *Life Histories of North American Birds of Prey*, Pt. 2, Dover Publications, Inc., New York, New York, 1961; Chapman, *Handbook of Birds of Eastern North America*, Dover Publications, Inc., New York, New York, 1966; Clark 1975), another individual was light-buffy underneath, leading us to conclude that this individual was an adult female (Bent 1961, Chapman 1966), the remaining individual was uniformly dark-buffy underneath, and on two occasions we observed it beg for food from a distance of 1–2 m (the adult bird ignored it). From these observations we concluded that this individual was an immature bird. This group may have been a family group; however, we have been unable to find any literature concerning post-breeding family cohesiveness in owls.

The group generally arrived in the area 1 h before sunset. The area was a snow-covered (ca. 250 mm in depth) oldfield habitat in Meridian Twp., Ingham Co., Michigan. Individuals either perched on a fence post for a short period of time or began coursing the area in search of voles; if a strike was successful the individual usually flew a distance of approximately 100 m and devoured the vole. Table 1 summarizes the results of the hunting successes of the members of the group.

Contingency tables were used to compare the success rates of (1) the adult male vs the adult female, and (2) the adults combined vs the immature. The success rates of the adult male vs the adult female were not significantly different ( $\chi^2_c = 1.456$ ,  $df = 1$ ,  $P > 0.1$ ). The combined success rates of the adults vs the immature were significantly different ( $\chi^2_c =$

TABLE 1  
HUNTING SUCCESS OF A GROUP OF SHORT-EARED OWLS

Date	Adult male		Adult female		Immature	
	Success	Failure	Success	Failure	Success	Failure
24 January 76	5	1	0	0	1	6
27 January 76	2	0	1	0	0	3
28 January 76	0	1	3	4	0	0
29 January 76	1	0	0	1	0	0
30 January 76	4	3	3	4	1	2
Totals	12	5	7	9	2	11

5.099,  $df = 1$ ,  $P < 0.01$ ). This analysis, though the sample size is small, shows the young *A. flammeus* had not attained hunting skills equal to the two adults.

We conclude that the hypothesis of Ashmole and Tovar (1968) may be contradicted, and disparate life-history characteristics may be related to the lengthy attainment of adult hunting skills. The species first mentioned (all fish-eaters) apparently have a stable food resource and can reliably support themselves and a small brood over a long period of time, whereas the owl must track an unpredictable food resource, breeding only when a rich food resource is found. After breeding, when food supplies may decline in an area, adult *A. flammeus* appear to lead their young (if this group was a family group), intentionally or otherwise, to resource-rich areas, which may constitute an indirect form of post-fledging parental care that is adaptive by increasing the probability of young attaining enough food to survive. If the group we studied was not a family group, then perhaps young follow adults to resource-rich areas. Such a behavior implies that effective resource-tracking may have a learning basis in "nomadic-type" birds.

*Acknowledgments.*—We thank D. L. Beaver, L. Harper, R. J. Raitt, and three anonymous reviewers for comments on the manuscript.—THOMAS G. MARR AND DOUGLAS W. MCWHIRTER, Dept. Zoology, Michigan State Univ., East Lansing, Michigan 48823. (Present address TGM: Dept. Ecology and Evolutionary Biology, Univ. Arizona, Tucson, Arizona 85721.) Accepted 20 Feb. 1981.

*Wilson Bull.*, 94(1), 1982, pp. 83–84

**Observations at a Laughing Falcon nest.**—Little is known of the breeding biology of the Laughing Falcon (*Herpethotes cachinnans*), a species occurring from Mexico to southern Argentina. Several nests of this species have been found (Wolfe, *Condor* 56:161–162, 1954; Skutch, *Animal Kingdom* 63:115–119, 1960; Haverschmidt, *Birds of Surinam*, Oliver and Boyd, London, England, 1968; Mader, pers. comm.), but little has been published on activities at the nests.

On 15 July 1979, we located a nest containing a single nestling in the crotch of a tree (*Bombax* sp.) along the Río Limón, east of Hacienda Boca Chica, 22 km north of Olmos, Dpto. Lambayeque, Perú (5°30'S, 79°43'W), at 400 m. Both slopes of the valley were covered with dry, deciduous forest. The nest was in a crotch formed by three large limbs radiating