causes 6 months after banding 20 km from the site of banding. Another bird from the group with little exposure to man was found dead from unknown causes 2 years and 9 months after banding, 65 km from where it was banded. These represent all recoveries to date.

A 2 × 2 contingency table test for independence (Snedecor, 1956. Statistical Methods, Fifth Edition, The Iowa State University Press, Ames, Iowa) shows that the fractions of banded young recovered for the group with and the group without frequent exposure to man are significantly different ($P < 0.005$). This is true regardless of (1) whether we compare all recoveries or only recoveries known to have been caused by human predation, (2) whether we compare recoveries overall or recoveries within a year of banding (a fairer comparison), or (3) whether we compare rates on the basis of total numbers of nestlings or on the basis of total numbers of nests represented. Further, it is interesting to note that all four recoveries in the group familiar with man were of birds subjected to both repeated handling and observation from blinds. Although 22% of the birds receiving both forms of taming are known to have been lost due to man's activities within a year of banding, the actual percentage was likely to have been higher since the figures are not adjusted for reporting rates for birds lost due to man.

To our knowledge none of the chicks we have ranked as unfamiliar with man had frequent contact with humans, although most nests were located within 200 m of trails or roads. The 26 birds observed from blinds saw us climb into and out of the blinds from as few as four times total to as often as several times per week. The blinds were located level with the nests in adjacent trees and were at distances of from 4 to 10 m. Once in the blinds, we were generally out of sight of the birds at the nests. However, at one of the nests from which a young bird was later recovered, the adult female became so tame that we often raised the sides of the blind for ventilation and thus were in full view of the young.

The young birds under observation from blinds, or subjected to repeated handling, never became so tame that they would not give strong defense displays when we approached the nests. After they had fledged, we followed some of them for data on achievement of independence. When fully capable of flight but still dependent on their parents for food, they were consistently more approachable than fledglings unfamiliar with man; however, they consistently flew off when we approached closer than about 8 m.

It has been suggested that falconers might help threatened raptor populations, e.g., the Peregrine Falcon (*Falco peregrinus*) in the continental United States, by taking birds into captivity for at least the first year of life when most mortality of wild raptors occurs (Beebe and Webster, North American falconry and hunting hawks, World Press, Inc., Denver, 1964: 6; Cade, Raptor Res. News 5:83, 1971). The birds would learn to hunt in relative security and allegedly would suffer less attrition in the first year than wild birds. When they later escaped or were released, they would enter into the breeding population as competent hunters carrying lower pesticide loads than they would if they had remained in the wild from the start.

The hypothesis that such captive treatment might help wild raptor populations has not been tested critically and is hard to test because of the difficulties in obtaining unbiased data on (1) survival of raptors in captivity and in the wild; (2) rates of release or escape of captives to the wild; and (3) survival and reproductive success in the wild of released or escaped captives. With regard to survival of released or escaped captives, our data strongly suggest that partial taming of young raptors may significantly increase mortality in the wild, and it is important to note that the partial taming received by the birds we studied is not equivalent to the degree of taming regularly produced by falconry. Birds held for falconry are taught to associate food and hunting success with the presence of man and they generally overcome their fear of man within a matter of days or weeks. Even if some tameness is lost upon reverting to the wild, these birds can be expected to be highly vulnerable to shooting. Formerly captive raptors (wearing jesses) that we have encountered in the field have been decidedly tamer than the partially tamed Cooper's Hawks of our study. That other aspects of captive treatment might compensate for increased mortality due to tameness has yet to be demonstrated.

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NESTING SUCCESS OF THE CACTUS WREN IN RELATION TO NEST ORIENTATION

GEORGE T. AUSTIN

Department of Biological Sciences
University of Nevada, Las Vegas
Las Vegas, Nevada 89109

The breeding success of birds has been the subject of many recent studies (see Ricklefs, Smithsonian Contrib. Zool. 9:1, 1969, for review). Success has been related to nest type, season, food abundance, and other factors but few studies have shown success to be related to nest placement (Ricklefs, op. cit.).

This study considers nesting success in relation to nest orientation in the Cactus Wren (*Campylorhynchus brunneicapillus*), a common resident of the desert regions of the United States and México. This species builds an enclosed retort-shaped nest with the entrance to one side and placed in cholla cacti (*Opuntia* spp.) or spinescent shrubs. Nest-entrance orientation is season-specific; early nests are oriented away from the prevailing winds and late nests are oriented into the winds (Ricklefs and Hainsworth, Condor 71:32, 1969).

METHODS

Studies of orientation and success were conducted in Pima County, Arizona, in 1970 and 1971. Nest-entrance orientation was measured with a compass and corrected to true direction. Many nests were inspected periodically to determine the fate of eggs and nestlings. Orientation data were treated statistically with the methods outlined in Batschelet (AIBS Monograph: 1, 1965). Success data were treated with chi-square analyses; significance is at the 0.05 level.

TABLE 1. Entrance orientation and success of nests of late-breeding Cactus Wrens.

Direction[a]	Entrance orientation N	Entrance orientation %	Hatching success %	Fledging success %	Nestling success %	Nest success %	Nests totally successful %	No. nests in success analysis
0–30	13	10.3	62.1	24.1	38.9	33.3	22.2	9
40–70	6	4.7	94.4	55.6	58.8	66.7	16.7	6
80–110	11	8.6	66.7	47.6	64.3	71.4	28.6	7
120–150	10	7.8	81.5	29.6	36.4	50.0	12.5	8
160–190	10	7.8	45.0	40.0	88.9	42.9	0.0	7
200–230	26	20.3	89.1	76.1	85.4	75.0	68.8	16
240–270	28	21.9	79.2	60.4	76.3	73.3	60.0	15
280–310	15	11.7	70.2	59.6	84.8	71.4	42.9	14
320–350	9	7.0	71.4	42.9	60.0	50.0	50.0	4

[a] In 30° intervals.

TABLE 2. Nesting success of Cactus Wrens in relation to nest-entrance orientation.

Orientation	Hatching success %	Fledging success %	Nestling success %	Nest success %	Nests totally successful %	No. nests
210–300[a]	77.8	63.7	81.9	72.1	55.8	43
310–200[b]	71.1	40.0	56.3	53.7	20.9	43
χ^2	1.6	15.6[c]	15.2[c]	3.2	9.6[c]	

[a] 100 continuous degrees containing the most nest-entrances.
[b] 260 continuous degrees containing lower concentrations of nest-entrances.
[c] Significant at the 0.05 level.

Hatching success is per cent of eggs laid to hatch, fledging success is per cent of eggs laid to fledge, nestling success is per cent of eggs hatched to fledge a young, and nest success is per cent of nests to fledge at least one young.

RESULTS AND DISCUSSION

Entrances of nests of late-breeding (May–August) wrens were oriented significantly to the southwest, with a mean entrance direction of 246° (table 1). Such orientation was also found by Ricklefs and Hainsworth (op. cit.) who suggested that nests were built to face the predominant wind direction during the warm part of the breeding season as an adaptation to moderate nest climate. I have observed similar nest orientations for the Verdin (*Auriparus flaviceps*), which also builds an enclosed nest (Austin, unpubl. data).

The factors controlling nest placement and the significance of placement and orientation are largely unknown. The striking change in orientation of Cactus Wren nests between early and late portions of the breeding season (Ricklefs and Hainsworth, op. cit.), apparently in relation to a single environmental factor (wind), provides an opportunity to study the effects of this single factor on nesting success.

I have success data for 86 nests of breeding Cactus Wrens (table 2). Nests oriented in the predominant direction were significantly more successful than those oriented otherwise. Thus orientation of the nest entrance appears to have an affect on its success, apparently acting at the nestling stage (table 2). These data add support to the contention that orientation into the wind during the hot part of the breeding season is an important factor in providing a suitable nest climate.

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A MELANISTIC WHITE-TAILED TROPICBIRD

STORRS L. OLSON
National Museum of Natural History
Smithsonian Institution
Washington, D.C. 20560

Since Clapp and Huber (Condor 73:123, 1971) have reported an imperfect albino of the Red-tailed Tropicbird (*Phaethon rubricauda*), it seems worthwhile to put on record a melanistic individual of the White-tailed Tropicbird (*Phaethon lepturus*), especially inasmuch as it has some bearing on geographic variation in the species. The bird in question (Yale Peabody Museum, YPM 44055) is an adult male taken on 3 April 1926 at the island of Fernando de Noronha, South Atlantic Ocean, by the "Blossom" Expedition of the Cleveland Museum.

The specimen differs most markedly from the normal plumage of the species in having nearly the whole crown and nape black rather than white (fig. 1). In normal specimens, the feathers of the crown and nape have black bases and the white feathers of the upper back, throat, and upper breast have black shaft streaks of varying width. Crown feathers of juveniles are normally spotted with black and a few adults show some similar spotting but none of the many specimens examined at YPM, the American Museum of Natural History (AMNH), or the National