

and 27 days PH because the development of self-feeding techniques and the transition to independence from parental care occurs during these two periods, respectively. There were no differences ($P = 0.78$) in RDFSf between fledglings (17–21 days old) from one and two parent nests (5.3 ± 1.9 [53] and 5.3 ± 0.9 [343], respectively). Consequently, no slowdown in the development of self-feeding behavior was indicated for fledglings from single-parent nests. There also were no differences ($P = 0.74$) in RDFSf between one and two parent nests (20.2 ± 10.2 [10] and 19.0 ± 3.0 [90], respectively) for fledglings 24–27 days old. Apparently the feeding rates of the single female parents were not reduced sufficiently to cause fledglings to increase independent feeding behavior during the transition period from parental to self-feeding which is the usual fledgling response to reduced feeding rates in other bird species (Davies, Behaviour 59:280–295, 1976).

Treatment values for RDPB (N/min) were compared at 12 days PH because all biologically important brooding observed in this study occurred then (Hitchcock and Mirarchi 1984). No differences ($P = 0.22$) in RDPB were observed between single parent (52.7 ± 14.8 [6]) and normal nests (69.6 ± 4.7 [54]). One single parent was observed brooding during the entire noon observation period (12:00–14:00) accounting for the lack of significant difference in brooding between treatments. Female Mourning Doves normally do not brood at this time (Taylor, M.S. thesis, N.C. State Univ., Raleigh, North Carolina, 1941; Harris et al., Am. Midl. Nat. 69:150–172, 1963) but appear capable of doing so when their mates are lost. This apparent ability to change incubation habits also has been reported in Ringed Turtle-Doves (*Streptopelia risoria*) (Wallman et al., J. Comp. Physiol. Psych. 93:481–492, 1979). This flexibility in brooding behavior is critical to Mourning Dove nestling survival under adverse weather conditions before homeothermy is achieved. Six fledglings (ages 14 days and younger), which had prematurely fallen from their nest during this and a subsequent study, were observed to die of exposure without consistent parental brooding (R. R. Hitchcock and J. B. Grand, unpubl.).

These observations demonstrate that wild, single-parent female Mourning Doves can care for their young PF by feeding and brooding them at times when normal female parent-fledgling interactions do not occur. However, the reduced number and duration of single-parent female feedings during the critical part of the fledgling dependency period indicates the possibility of slower development and increased mortality for single-parent fledglings. More extensive orphaning experiments should be combined with radiotelemetry studies during the fledgling dependency period to determine if differential rates of growth, development, and mortality are related to the sex of the parent removed and fledgling age class.

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Nest-sites of Turkey Vultures in buildings in southeastern Illinois.—Turkey Vultures (*Cathartes aura*) are known to nest in a variety of places: on the ground in thickets, under overhanging rocks or in caves, on exposed faces of cliffs, and in hollow trees, logs, and stumps (Jackson, J. A., pp. 247–270 in *Vulture Biology and Management*, S. Wilbur and J. A. Jackson, eds., Univ. Calif. Press, Los Angeles, California 1983), a pig-sty (Jackson, Bird-Lore 28:175–180, 1903), a tumbled-down house (Sprunt and Chamberlain, South Carolina

Bird Life, Univ. South Carolina Press, Columbia, South Carolina, 1949), and in barns (Pickens, Auk 44:573-574, 1927; Tyler, pp. 12-28 in Bent's Life Histories of North American Birds of Prey, Pt. 1, Dover Publ., New York, New York, 1961). Sample sizes were small or not mentioned by these authors.

In southeastern Illinois, Turkey Vultures were found commonly nesting in abandoned structures. From 1978-1983, 15 nests were observed and four others were reported by local farmers in the area. The 19 nests were situated in eight different barns, two old houses, and an old storage shed. No Turkey Vulture nests were discovered in natural sites during the 5-year period, but no intensive search for such nests was made. However, selection of abandoned buildings was evident as 70% of the structures checked during the study had nests. The decline in use of natural cavities for nest-sites by Turkey Vultures (Jackson 1983) may be related to this seeming shift by vultures to nest-sites in abandoned buildings.

All buildings were in or at the edge of wooded areas; all were abandoned except for the storage of farm equipment in some of the barns; and none was closer than 80 m to the nearest homestead. All 16 nests found in barns were in hay lofts. In the houses, one nest was on a first floor, and the other was on a second floor. The nest in the shed was on the ground.

Nests had been placed in dark corners of the building or in cavities created by spaces between bales of hay. Jackson (1983:264) also noted that Turkey Vulture nest-sites were typically in "dark recesses." Nest substrates consisted of wheat straw (N = 15), wood (N = 2), corn stalks (N = 1), and rotten wood (N = 1).

The history of two nests found in our survey was followed from initiation to fledging. The first eggs were laid on 29 April and 8 May, and hatched on 3 June and 11 June, respectively. Fledging occurred approximately 81 and 66 days later. One other nest contained one egg on 2 May, but was found destroyed 10 days later.

Fourteen of the 19 nests were successful, four were destroyed by predators, and one was destroyed when one of the houses was demolished. Nest destruction occurred only during egg-laying (N = 1) or incubation (N = 4). The nest success of 79.2% was higher than the 53.3% reported by Jackson (1983:262). Turkey Vulture eggs and nestlings in nests placed on the ground in thickets have higher mortality rates compared to nests above the ground (Jackson 1983). Since most of the nests in our study were in barn lofts, the nest success could be greater than in ground nests because predators such as coyotes (*Canis latrans*), red foxes (*Vulpes fulva*), and domestic dogs (*C. familiaris*) could not reach them.

Each completed nest contained two eggs. Of the 28 eggs of known fertility two were judged infertile when opened. In one barn, single nests over 5 consecutive years fledged a total of nine young.

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Nesting distribution and reproductive status of Ospreys along the upper Missouri River, Montana.—The enhancement and expansion of Osprey (*Pandion haliaetus*) habitat as a result of the construction of reservoirs has been noted in a number of sites in the western United States (Roberts and Lind, pp. 215-222 in Trans. N. Am. Osprey Resear. Conf., U.S. D. I., Natl. Park Serv., Trans. and Proc. Ser. No. 2, 1977; Henny et al., Northwest Sci. 52: