

Literature Cited

- Bent, A. 1938. Life histories of North American birds of prey, order Falconiformes. Part 2. U.S. Natl. Mus. Bull. 170. Dover Publications, New York.
- Borror, D. J., and R. E. White. 1970. A field guide to the insects of America north of Mexico. Houghton-Mifflin, Boston.
- Cade, T. J. 1960. Ecology of the peregrine and gyrfalcon populations in Alaska. Univ. of Calif. *Publ. in Zool.* 63:151-267.
- Cade, T. J., C. M. White, and J. R. Haugh. 1968. Peregrines and pesticides in Alaska. *Condor* 70:170-178.
- Enderson, J. H., S. A. Temple, and L. G. Swartz. 1972. Time-lapse photographic records of nesting Peregrine Falcons. *Living Bird* 11:112-128.
- Fisher, A. K. 1893. Hawks and owls of the United States and their relation to agriculture. U.S. Dept. of Agric. Bull. 3 Govt. Printing Office, Washington, D.C.
- Kelley, A., and N. Kelley. 1969. Porcupine quills found in the foot of Sharp-shinned hawk. *Wilson Bull.* 81:209-210.
- Lindroth, C. H. 1969. The ground beetles of Canada and Alaska. *Opuscula entomologica. Suppl.* 20, 24, 29, 33-35. 1192 p.
- Olendorff, R. 1976. Food habits of North American Golden eagles. *Amer. Midland Nat.* 95:231-236.
- Osgood, W., and B. Bishop. 1900. Results of a biological reconnaissance of the Yukon River. North American Fauna No. 19, U.S. Dept. of Agric. Div. Biol. Survey. 100 pp.
- Philips, J. R., and D. L. Dindal. 1977. Raptor nests as a habitat for invertebrates: A review. *Raptor Res.* 11:87-96.
- Pruett-Jones, S. G., C. M. White and W. R. Devine. 1981. Breeding of the Peregrine falcon in Victoria, Australia. *Emu* 80:252-269.
- Sherrod, S. K. 1978. Diets of North American Falconiformes. *Raptor Res.* 12:49-121.
- Snyder, N. F., and J. W. Wiley. 1976. Sexual size dimorphism in hawks and owls of North America. AOU Ornithol. Monogr. 20.
- Vaughan, T. A. 1972. Mammalogy. W. B. Saunders Co. 463 pp.

AN ENCOUNTER BETWEEN A NESTING BARN OWL AND A GRAY RAT SNAKE

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On 20 April 1981 at 1700 we climbed to the top of an abandoned concrete silo in Oktibbeha Co., Miss., to measure a brood of 4 Barn Owl (*Tyto alba*) which ranged in age from 8 to 16 days old. The silo was constructed of poured concrete and had smooth sides with a few Virginia creeper (*Parthenocissus quinquefolia*) vines growing the 12 m to the "room" just below the broken cone-shaped concrete top. Our access to the top was by way of a series of metal rungs built into a concrete tube leading vertically to the top. Each day one or both adult Barn Owls flew as the first person started up the ladder; this date one owl flew. At the top, we found the 4 young owls in their normal position against the back wall of the 3.5 m diameter chamber; stretched out along the opposite wall was a large gray rat snake (*Elaphe obsoleta spiloides*). The snake pulled its head back and raised it slightly as we entered the chamber, but remained motionless 2 m away (for about 5 min) as we weighed and measured each owlet. When finished we climbed from the chamber to a point where we could just peer over the edge to view owls and snake. After 4 min, the snake began slowly moving toward the 4 owlets that had meantime settled back into "huddled" positions—2 groups of 1 large and 1 small chick. The snake moved along the edge of the wall to within 0.3 m of the closest owls before we climbed into the chamber to stop its advance. The owlets noticed the snake, but appeared to view it with curiosity rather than with fear. They huddled together but did not retreat as the snake approached.

On examining the snake, we found fresh puncture wounds on the head and in two other areas within 15 cm of the head; these were clearly talon marks. We can only speculate about what occurred just prior to our appearance on the scene. From all appearances, the rat snake had climbed the silo to the owl nest and was attacked by the owl when about 3 m from the nest.

The rat snake was 151 cm long (snout vent length—134 cm) and weighed 772 g. For comparison, two adult male Barn Owls from Oktibbeha County in the ornithological collection at Mississippi State University weighed 492 and 512 g. The Barn Owl chicks in this nest weighed from 76.3 to 302 g.

The gray rat snake is well-known as a climber and predator on nestling birds (Jackson 1974, 1976). Perusal of bibliographic entries for the Barn Owl in Clark et al. (1978), and a review of the Barn Owl in Bent (1938), revealed no reference to snakes as prey of Barn Owls, Barn Owls as prey of snakes, or nest defense by Barn Owls against a snake. Thus, the incident reported here, however interpreted, seems to be unusual.

Literature Cited

- Bent, A. C. 1938. Life histories of North American birds of prey. Part 2. U.S. Natl. Mus. Bull. 170.
 Clark, R. J., D. G. Smith, and L. H. Kelso. 1978. Working bibliography of owls of the world. Sci. and Tech. Ser. 1, Natl. Wildl. Fed., Washington, D.C.
 Jackson, J. A. 1974. Gray rat snakes versus Red-cockaded woodpeckers: predator-prey adaptations. *Auk* 91:342-347.
 Jackson, J. A. 1976. Relative climbing tendencies of gray (*Elaphe obsoleta spiloides*) and black rat snakes (*E. o. obsoleta*). *Herpetologica* 32:359-361.

INNATE FISHING BEHAVIOR OF OSPREYS

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The literature contains much controversy regarding the innate fishing abilities of the Osprey (*Pandion haliaetus*). Zarn (1974) noted little documentation exists for post-fledging activity of young Ospreys. Meinertzhagen (1954) anthropomorphically described attempts by adult Ospreys in Sweden to teach young to fish, and D. S. MacCarter (1972) stated that Ospreys at Flathead Lake appeared to teach young to fish, but questioned the validity of his own conclusions. Bent (1937) and Craighead and Craighead (1939) both stated that fishing behavior is innate and that Ospreys do not teach their young to fish. This area of Osprey life history clearly needs clarification.

Brown and Amadon (1968) hypothesized that young raptors possess innate hunting instincts that stimulate hunting behavior even while food is being provided by adults. This hypothesis is supported by observations made on young of the Peregrine Falcon (*Falco peregrinus*). Nestling Peregrines released to the wild through a "hacking" procedure learned to kill their own food in 4 to 6 weeks after leaving the nest (Sherrod and Cade, 1979). The Bald Eagle (*Haliaeetus leucocephalus*) hacked in a similar manner also demonstrated ability to seek and kill prey independently (Milburn, 1979). Hacking of Ospreys as a species management technique is obviously dependent on the theory of innate hunting instincts in young birds during the post-fledging period.

Research concerned with developing reintroduction techniques to reestablish inland nesting populations of Ospreys in favorable habitats further supports this theory. During the summer of 1980, 6 nestling Ospreys were obtained from nest-sites in the Chesapeake Bay and transferred to the Wild Creek Reservoir complex in northeastern Pennsylvania. The six-week-old donor birds were placed in artificial nests on hacking towers and fed by workers through a blind, minimizing the possibility of the birds relating human presence to food supply. The birds were fed in this manner until they fledged in late July.

As the Ospreys began returning regularly to the towers to feed, the instinctive development of fishing behavior became apparent. They, however, displayed markedly different patterns of post-fledging behavior. Three birds, Group A, gained independence of nest platforms within 5 to 12 days and perched on specific snags to hunt, whereas Group B continued to use the nest platforms to perch and feed until they dispersed in