Interpretation of this behavior is difficult. Intruders may have been seeking a new nest site. The colony has a remarkably uniform nesting substrate, however, and nest sites did not appear to be limited, nor did contested nest sites appear to be safer or more productive. Washouts by high tides on the island accounted for a minimum of 75% nest mortality over the four seasons; low nests were a distinct liability. In five of the eight observed cases, however, the intruder's original nest site was higher than the victim's. In all cases, the intruder's nest appeared to be fully constructed and capable of holding eggs. It is unclear, then, why the intruders attempted to take over new nest sites.

The intruding female could have been trying to create an opportunity to dump eggs in the victim's nest. Conspecific egg dumping does occur in colonies of White Ibises (Frederick, 1985; Shields, M.S. thesis, Univ. North Carolina, Wilmington, North Carolina, 1985); however, eggs were never laid by the intruding females during attempted nest takeovers.

In all cases the intruding pair had not laid eggs at the time of the attempted eviction, and the residents had laid from one to three eggs. It is possible that the male or female intruder was infertile. In one case the intruders had been paired for at least 9 days, a longer than usual time before eggs are laid (pers. obs.). Pierotti (Am. Nat. 115, 290–300, 1980) suggested that conspecific chick destruction in Herring Gulls (*Larus argentatus*) was an attempt by unsuccessful nesters to increase their fitness by lowering the fitness of successful neighbors. Intruding pairs of ibis did not attempt to attack more than one nest, however, and the relative increase in the intruder's fitness as a result of only one attack in such a large population is infinitesimally small. Further, if egg destruction were the only purpose of the attacks, intruders should not have attempted to retain ownership of the nest.

I thank J. A. Kushlan and J. Burger for their helpful comments on an earlier version of this ms.—PETER FREDERICK, *Dept. Biology, Univ. North Carolina, Chapel Hill, North Carolina 27514.* *Received 29 Apr. 1985, accepted 15 July 1985.*

Wilson Bull., 98(1), 1986, pp. 157–160

Winter diets of vultures in southcentral Pennsylvania.—Except for recent studies by Coleman and Fraser (p. 14 *in* Ann. Meet. Raptor Res. Found., Blacksburg, Virginia, 1984) and Paterson (Wilson Bull. 96:467–469, 1984), information on diets of Black Vultures (*Coragyps atratus*) and Turkey Vultures (*Cathartes aura*) has been either anecdotal or qualitative. The presence of a large winter communal roost occupied by both of these species at Big Round Top, Gettysburg National Military Park, Adams County, Pennsylvania (Wright, M.S. thesis, Pennsylvania St. Univ., University Park, Pennsylvania, 1984) provided a convenient opportunity to examine winter diets of vultures.The Big Round Top roost was approximately one ha in size. Major overstory trees consisted of white pine (*Pinus strobus*) (42%) and northern hardwoods (birch [*Betula* spp.], maple [*Acer* spp.], and American beech [*Fagus grandifolia*]) (58%), but only white pines were used as roost trees by vultures (Wright 1984). Mean number of vultures at this roost during midwinter was 719 in 1982–83 and 420 in 1983–84. Turkey Vultures and Black Vultures comprised 70% and 30%, respectively, of the totals each year (Wright 1984). We had no evidence to suggest that the two species were segregated within the roost. A variety of different food resources was expected to be available to vultures because Adams County is composed of about 32% forest and 60% farmland. Our objectives were to compare diets of vultures at the Big Round Top roost (1) during two winters that varied in weather severity, (2) during snow-free periods and snow-covered periods of winter, and (3) with those reported for *C. aura* in Virginia.

Sixty-three and 94 pellets were gathered at the roost from late December through February

TABLE 1

PERCENT OCCURRENCE OF ANIMAL FOOD ITEMS PLACED IN FOUR GROUPS BASED ON 157 VULTURE PELLETS COLLECTED AT THE BIG ROUND TOP ROOST, ADAMS CO., PENNSYLVANIA, IN WINTERS 1982–83 AND 1983–84

Food item	Occurrence
Domestic Mammal	
Cow (*Bos taurus*)	22.3
Sheep (*Ovis aries*)	15.9
Pig (*Sus scrofa*)	15.9
Subtotal	54.1
Deer	
White-tailed Deer (*Odocoileus virginianus*)	45.2
Poultry	
Chicken (*Gallus gallus*) and Turkey (*Meleagris gallapavo*)	49.0
Small mammal	
Virginia Opossum (*Didelphis virginiana*)	8.9
Norway Rat (*Rattus norvegicus*)	2.5
Eastern Cottontail (*Sylvilagus floridanus*)	1.9
Striped Skunk (*Mephitis mephitis*)	1.3
Gray Squirrel (*Sciurus carolinensis*)	0.6
Red Fox (*Vulpes vulpes*)	0.6
Subtotal	15.9

in 1982–83 and 1983–84, respectively. The pellets egested by the two species of vultures could not be separated because of similarities among pellets collected and a lack of a published guide. Thus, we pooled data from both species. Pellets were air-dried, then separated with a dissecting scope into different types of animal hairs, plant material, and miscellaneous material, including bone fragments and soil. Species identity of each type of animal hair separated macroscopically was identified by preparing impressions of the cuticular scale patterns of at least three randomly selected hairs (Williamson, J. Mammal. 32: 462–464, 1951). The impressions were examined through a compound microscope and compared to reference slides and a hair guide (Adorjan and Kolenosky, Ontario Dept. Lands For. Res. Rep., 90, 1969). All recovered feathers were white and presumed to be either domestic chicken (*Gallus gallus*) or domestic turkey (*Meleagris gallapavo*). Both species of poultry were abundant in Adams County (U.S. Census Bureau, 1982 Census Agric. Preliminary Rep., 1983). Only the occurrence, not the species, of plants in individual pellets was noted because ingestion of plants by vultures may be accidental (Paterson 1984).

Animal food items were placed into one of four groups: domestic mammal, deer, poultry, and small mammal. The frequency of occurrence of food items from each group was compared in diets between winters and between snow-free and snow-covered periods using 4×2 tests of independence (Sokal and Rohlf, Biometry, 2nd ed., Freeman, San Francisco, California, 1981). Also, the number of pellets containing a food item versus the number without that food item were compared between winters and between snow-free and snow-

TABLE 2

PERCENT OCCURRENCE OF FOOD ITEMS BASED ON 142 VULTURE PELLETS COLLECTED AT THE BIG ROUND TOP ROOST, ADAMS CO., PENNSYLVANIA, DURING SNOW-FREE PERIODS (<7.6 CM SNOW COVER) AND SNOW-COVERED PERIODS (≥7.6 CM SNOW COVER) IN WINTERS 1982–83 AND 1983–84

Group[a]	Occurrence	
	Snow-free period (N = 67)	Snow-covered period (N = 75)
Domestic mammal	47.8	53.3
Deer	40.3	45.3
Poultry	35.8	63.7
Small mammal	20.9	9.3

[a] Species comprising each group are given in Table 1. Fifteen pellets were omitted because they could not be placed into either the snow-free or the snow-covered period.

covered periods, using 2 × 2 tests of independence. The proportion of each food item in individual pellets was not noted because these data do not necessarily indicate the importance of that item in vulture diets because of (1) differences in biomass among food items and (2) variable ingestion rates of different food items (see Paterson 1984). We feel, however, that our data provide information on the relative abundance of potential food types available to vultures.

Mean January temperature was −0.1°C in 1983 and −3.8°C in 1984 (Wright 1984). Mean daily snow cover was 4.3 cm and 2.3 cm from mid-December through February in 1982–83 and 1983–84, respectively. Snow-free periods were defined as periods when snow depths were less than 7.6 cm, because most carcasses of small food items (e.g., poultry and small mammals) would be covered when snow depths were ≥7.6 cm.

Dry weight of pellets was 1.99 ± 0.62 g (SD); pellets typically were 4.5 cm long, 2.5 cm wide, and 2.0 cm deep at their thickest parts. Eleven animal species were identified in the 157 pellets pooled over the two winters (Table 1). Evidence of domestic mammals, deer, and poultry was noted frequently, whereas hair from small mammals was uncommon. Unidentified hair was found in four pellets. Plant material was present in 27% of the pellets; large amounts of vegetation (>10% total volume) were noted in 5% of the pellets.

Vulture diets did not differ between winters ($G = 1.06$, $df = 3$, $P > 0.50$) but varied between snow-free and snow-covered periods ($G = 7.36$, $df = 3$, $0.05 < P < 0.10$) (Table 2). Occurrence of the largest food items, i.e., domestic mammals and deer, in pellets was similar regardless of snow depth ($G \leq 0.38$, $df = 1$, $P > 0.90$). These larger carcasses were probably conspicuous to foraging vultures by sight or smell (see Rabenold, pp. 303–321 *in* Vulture Biology Management, S. Wilbur and J. A. Jackson, eds., Univ. Calif. Press, Berkeley and Los Angeles, California, 1983), except under excessive snow cover. Snow depth never exceeded 74 cm during either winter at the Big Round Top roost. The frequency of poultry diets, however, was greater during snow-covered than during snow-free periods ($G = 10.32$, $df = 1$, $P < 0.01$). This suggests that vultures depend more on farms with abundant and predictable sources of poultry carcasses during periods of snow cover. The occurrence of small mammal remains in pellets tended to decline during snow-covered periods ($G = 3.78$, $df = 1$, $0.05 < P < 0.01$).

We compared our results to autumn diets of Turkey Vultures in Montgomery County, Virginia (Paterson 1984). The occurrence of domestic mammal hair was high in both studies;

however, sheep hair occurred more often (55%) in the Virginia study, whereas cow hair predominated in our study (Table 1). This difference probably was due to availability rather than to dietary preferences. In Adams County, during 1982, cows outnumbered sheep 10 to 1 (U.S. Census Bureau 1983); in Montgomery County, during 1978, cows outnumbered sheep only 5 to 1 (U.S. Census Bureau, 1978 Census Agric. Preliminary Rep., 1978). Virginia vultures consumed more poultry than those in Pennsylvania, with feathers occurring in 70% of the pellets compared to 49% in the present study (Table 1). But poultry availability, based simply on numbers per county, did not explain the difference between studies because chickens, for example, were over 200 times more abundant in Adams County than in Montgomery County (U.S. Census Bureau 1978, 1983). Deer hair occurred less often (32%) in the Virginia pellets (Paterson 1984) than in the Pennsylvania pellets (Table 1). Deer harvest and road-kills are relatively high in Adams County (Wright 1984; H. Greenlee, pers. comm.). Vultures regularly fed on deer carcasses near the Big Round Top roost during winter (Coleman and Fraser 1984).

Finally, although shrews (Soricidae) and moles (Talpidae) were noted in 23% and 27%, respectively, of the autumn pellets in Virginia (Paterson 1984), all small mammals combined were represented in only 16% of the Pennsylvania pellets. However, when only pellets collected during the snow-free period in Pennsylvania were considered, the occurrence (21%) of small mammals in pellets (Table 2) was similar to that reported in Virginia. Snow cover may have a greater impact on food resources of Turkey Vultures than those of Black Vultures in our study; Coleman and Fraser (1984) observed Turkey Vultures feeding at small carcasses more often than did Black Vultures.

The result of our pellet examination indicates that vultures are opportunistic scavengers during winter. The diverse food available in southcentral Pennsylvania, together with the presence of suitable roosting habitat (Wright 1984), probably contributes to the current abundance of Black and Turkey Vultures in southcentral Pennsylvania.

Acknowledgments.—This research was supported by the Pennsylvania Agric. Exp. Stn., the U.S. Fish and Wildl. Serv., the National Park Serv., and the Max McGraw Wildl. Found. We thank J. Karish and H. Greenlee for their cooperation with all aspects of the study and J. Fraser, R. Paterson, and R. Shipman for reviewing the manuscript. This is Scientific Journal Series Paper No. 7151 of the Pennsylvania Agric. Exp. Stn., The Pennsylvania State Univ.—RICHARD H. YAHNER, *Forest Resources Lab., School of Forest Resources, The Pennsylvania State Univ., University Park, Pennsylvania 16802*; GERALD L. STORM, *Coop. Fish and Wildl. Research Unit, USFWS, The Pennsylvania State Univ., University Park, Pennsylvania 16802*; AND ANTHONY L. WRIGHT, *Forest Resources Lab., School of Forest Resources, The Pennsylvania State Univ., University Park, Pennsylvania 16802.* *Received 29 Mar. 1985, accepted 1 June 1985.*

Wilson Bull., 98(1), 1986, pp. 160–163

Breeding Biology of the Seychelles Black Parrot (*Coracopsis nigra barklyi*).—The Seychelles Black Parrot (*Coracopsis nigra barklyi*) is endemic to the island of Praslin in the Seychelles. It is listed as rare in the Red Data book (King, ICBP, Washington, D.C., 1978). Previous studies of the endemic birds of the Seychelles have called for additional information on the islands' rare and endangered species (Vessey-Fitzgerald, J. Ecol. 28:465–483, 1940; Loustau-Lalane, Occas. Publ. Seychelles Soc. 1:32, 1962; J. Seychelles Soc. 3:64, 1963; Gaymer et al., Ibis 111:157–176, 1969; Penny, Oryx 9:267–275, 1968). The Seychelles Black Parrot was first described by Newton (1867). Other populations of this species occur on the