

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

TABLE 1
NUMBERS OF PARROTS OBSERVED DURING SIMULTANEOUS COUNTS IN 1983 AT SITES
WITHIN THE KNOWN RANGE OF PARROTS ON PRASLIN

Date*	Number of observation points	Total number of parrots observed
22 Sept.	13	29
29 Sept.	13	29
6 Oct.	13	32
13 Oct.	13	39
20 Oct.	13	32
27 Oct.	13	41
3 Nov.	13	29
10 Nov.	20	33
17 Nov.	21	58
24 Nov.	21	48
1 Dec.	20	32

* All counts took place between 08:00 and 08:30 h.

Como Islands and on Madagascar. The present study is intended to add to the limited knowledge of the breeding biology of this species.

Study area and methods.—Praslin, the second largest island of the Seychelles archipelago (55°30'E, 4°20'S), is an approximately 41 km² granitic island located 44 km north of the largest island, Mahé. The island, which is covered with large boulders from the ocean edge up to an elevation of 387 m, is approximately rectangular in shape and has a ridge along the long axis as well as a number of steep valleys. The Vallée de Mai National Park is located in the center of Praslin. It is an area of 100 ha owned by the Republic of Seychelles. The climate of the island is tropical, with a mean temperature of 26.9°C and an average monthly rainfall of 8.1 cm. During the rainy season (October to March) the rainfall averages 30.4 cm per month. A thorough description of the Seychelles Islands is given by Gaymer et al. (1969). The vegetation is described by Vessey-Fitzgerald (1940).

We studied parrots on Praslin from 13 June to 1 August 1982 and from 1 July 1983 through 22 January 1984. We studied parrots throughout Praslin but concentrated our observations in the Vallée de Mai region. With few exceptions, observations of parrots were carried out daily. On 11 occasions we attempted to make simultaneous counts of parrots in as many as possible of 21 locations where we had regularly seen birds. These counts were made from 08:00–08:30 and provide a minimum estimate of the parrot population.

We attempted to capture parrots in 4-in. mesh, 12-m, black-nylon mist-nets placed at various locations where parrots had been seen feeding. We set nets near the ground and also at forest-canopy heights by using pulleys attached to bamboo poles. All open nets were monitored continuously.

We discovered four active nesting areas in the Vallée de Mai. In 1983 we monitored three active nests and obtained information on nest location, clutch size, hatching and fledging success, and growth rates of nestlings.

Results.—Counts of parrots ranged from 29 to 58 (Table 1). The minimum size of the population must be greater than 58, but we do not know how many more birds there might have been. Two birds were caught in mist nets placed near Bilimbi trees (*Averrhoa bilimbi*) where the birds had been seen feeding. It was impossible to sex or age the birds, but weights

TABLE 2
MEASUREMENTS AND DESCRIPTION OF TWO LIVE PARROTS CAUGHT IN MIST NETS

	Date of capture	
	29 Aug. 1983	9 Nov. 1983
Wing chord (mm)	167	186
Tail length (mm)	119	130
Culmen length (mm)	23	19
Tarsus length (mm)	18	19
Weight (g)	153	140
Eye color	Brown	Brown
Bill color	Bone	Bone

and other measurements were taken (Table 2). In general, these measurements are within the ranges given by Forshaw (Parrots of the World, Lansdowne, Melbourne, Australia, 1973: 584).

Prior to our study only two nests had been described (Lousteau-Lalanne 1963). These nests were in trees that were broken at the top and were hollow. Using the descriptions of nest trees by Lousteau-Lalanne as a guide, in 1982 we counted the number of potential nest trees on 100 ha in the Vallée de Mai and found 45 dead, hollow, broken trees that had hollow trunks deep enough for parrots to nest. At Fond Ferdinand we found only two trees in a 25-ha area. The Fond Peper area of 80 ha yielded nine Coco de Mer Palms (*Lodoicea maldivica*) that were hollow and broken off. Fond Badimier had two such trees in 20 ha. The results of our survey suggested that Coco de Mer Palms alone are sufficiently numerous to satisfy the nesting needs of the parrots. Potential nest cavities also exist in other species of trees and in areas not included in our surveys, which covered only a small percentage of the total area of nesting habitat available on the island. All known nests, however, have been located in the areas we surveyed.

We observed a parrot leaving a dead, hollow Coco de Mer Palm in the Vallée de Mai on 16 November 1982. The nest was at the base of the hollow tree and 3.6 m below the entrance to the cavity (Table 3). The first egg was found in the nest on 17 November 1982. The second egg was found a day later. Both eggs hatched on 6 December 1982 after an 18-day incubation period. One young parrot fledged on 11 January 1983, and the other left the nest on 24 January 1983.

The first nest of 1983 was found on 20 December at the same site used in 1982. The nest contained a single egg that was laid between 11:11 and 11:22 while we were monitoring the nest. On 23 December 1983 the egg was found broken. On 26 December 1983 a new egg was discovered in the nest; no additional eggs appeared. Observations at this nest revealed the method used by the parrot to descend into the deep cavity. The parrot would alight on the edge of the upward-facing cavity entrance and then lean forward to grasp the opposite edge with its bill; it would then swing its feet to the inside of the cavity and back down to the base of the cavity. When leaving it climbed up the inside of the trunk.

The second nest of 1983 was found in the Vallée de Mai in a Coco de Mer Palm (Table 3). This nest contained three eggs, which were being incubated at the time of discovery. No additional eggs appeared in the nest.

On 5 January 1984, a third nest was found in the Vallée de Mai. The nest was in a hollow trunk of a dead *Albizzia* tree (*Albizzia falcataria*). At the time of discovery the nest contained

TABLE 3
 DESCRIPTIONS OF PARROT NESTING TREES AND NEST CAVITIES LOCATED IN THE VALLEÉ DE MAI

	Nest site		
	A	B	C
Type of tree	Coco de Mer	Coco de Mer	<i>Albizzia</i>
Height of tree (m)	4	5.9	2.5
Cavity depth (m)	3.6	1.5	1.8
Inside diameter of cavity (cm)	26	24.5	2.3

a broken egg and one newly hatched young. The nest was 80 m northwest of nest B and 115 m northeast from nest C (Table 3). On 11 January 1984, the young in the nest was found freshly dead and partially eaten. We suspect that a rat (*Rattus rattus*) was the predator.

The parrot eggs we examined were white and oval in shape. Prior to our study only one egg had been described (Forshaw 1973). That egg measured 38.6 × 30.5 mm. Our eggs measured: \bar{x} length = 35.8 mm, range = 31–40 mm; \bar{x} width = 26.4 mm, range = 25–34 mm; N = 5. Clutch size varied between 2 and 3 eggs per nest. Out of the total of 9 eggs we observed, 3 eggs were destroyed before hatching, and one egg was infertile. The nesting season began in November when the first eggs were laid and lasted until February when the last chick fledged.

The single chick in nest C was weighed on three consecutive days at 10:30. It weighed 82 g when 15 days old, 67 g when 16 days old, and 70 g when 17 days old.

Acknowledgments.—The senior author wishes to acknowledge Indiana Univ. of Pennsylvania for granting him a sabbatical leave from 1 July 1983 to 1 July 1984. International Business Machines and L. Zambotti made financial contributions to this research project. The government of the Republic of Seychelles is acknowledged for its support of fieldworkers S. M. Savy and L. Chong Seng.—ROBERT E. MERRITT, *Dept. Biology, Indiana Univ., Indiana, Pennsylvania, 15705*, PATRICIA A. BELL, *P.O. Box 445, Indiana, Pennsylvania, 15701*, AND VICTORIN LABOUDALLON, *Dept. Forestry and Conservation, Fond Boffay, Praslin, Republic of Seychelles. Received 15 Feb. 1985, accepted 21 June 1985.*

Wilson Bull., 98(1), 1986, pp. 163–167

Additions to records of North American avifauna in Yucatán, Mexico.—The symposium entitled "Migrant Birds in the Neotropics: Ecology, Behavior, Distribution and Conservation" (Keast and Morton, eds., Smithsonian Inst. Press, Washington, D.C., 1980) contained numerous statements concerning our lack of knowledge about bird migration in Central America and Mexico. Since 1979, we have made an effort to learn more about the distribution of migratory birds and their times of arrival by use of mist nets. We have not been able to approach this project in a systematic way because much of the work has been done by personnel whose time was donated by the government of Mexico at locations that were expedient. The data contained herein were gathered at eight locations (Fig. 1) from 16 September 1981 through 1 December 1983 at various times of the year and with various numbers of nets.

The study area lies north of 20°15'N and, except for El Cuyo (21°30'N, 87°10'W), between