the mud nests from wind and rain. The 2 active nests were 3.3 m above the water (bottom of nests to water). The "neck" of the nest at which fledging was observed had broken off prior to 10 June or it was never completed before being used. The other active swallow nest was the gourd-shaped mud structure typical of the species. Three of the other 7 nests were intact and 4 had the "neck" partly broken or missing. Variation in the "neck" is well known (Gross, *In* U. S. Natl. Mus. Bull. 179, 1942).

I wish to thank Roxie C. Laybourne, U. S. National Museum, for confirming the subspecies of the specimen.—PAUL W. SYKES, JR., *U. S. Fish and Wildlife Service, Patuxent Wildlife Research Center, Field Station, P. O. Box 2077, Delray Beach, FL 33444.* *Accepted 28 Oct. 1975.*

Minimum temperature for feeding by Purple Martins.—Allen and Nice (Am. Midl. Nat. 47:606–665, 1952) stated that Purple Martins (*Progne subis*) "seem able to withstand several days of cold weather and to be able to feed at surprisingly low temperatures...." Sprunt (Bent, U.S. Natl. Mus. Bull. 179:489–509, 1942) on the other hand (and many authors since) wrote that severe cold so eliminated insects that martins died from starvation. However, I have been unable to find any published information on the exact minimum temperatures at which martins are able to successfully forage.

In 1974 and 1975 I investigated the minimum temperature at which martins successfully fed and studied the behavior of Purple Martins in temperatures below that minimum in north central Texas (Sherman, Grayson Co.). While martin deaths due to starvation may be infrequent in north central Texas, there are many days on which cool weather restricts activity and feeding.

On days of cold weather I closely watched a backyard martin colony containing 7 martin houses and noted temperatures periodically. I also noted temperatures whenever martins left their houses and were seen flying nearby, erratically wheeling and presumably hawking for insects. The numbers of martins present at the colony varied from 5 at the time of their arrival to at least 30 near the end of March. Temperature measurements were obtained with a thermometer attached to the outside of a window screen. Possible temperature differences between the level of the window and the level of the martin houses I believe were negligible.

The major difficulty I had was in determining if martins were actually feeding. Purple Martins are far-ranging feeders and rarely feed near their colonies. However, when I observed the birds twisting and hawking, I assumed they were foraging successfully. I also assumed that the birds were foraging successfully when all the martins present at the colony disappeared in the afternoon and did not return until nightfall. It is unlikely that the birds would consume energy needed for flight unless they were finding food, especially at cooler than average temperatures.

On days of temperatures 13°C or above, martins presumably located ample food. Days of cold weather varied from the time of the martins' arrival in Sherman on or about 14 February throughout March. Only on 2 occasions did temperatures below 13°C extend for longer than a 2-day period.

On 14 days during February and March, 1974 and 1975, I recorded temperatures of 6°C or lower. Martins spent most of each of these days inside the martin houses. On 4 days with temperatures of 9°C during the afternoon, the martins remained away from the houses the entire afternoon.

On one occasion during 1974 I recorded temperatures of 6°C or lower for a 3-day period. On the first 2 days of this period, the martins' territorial defense and pair bonds were maintained. Although singing and flight were reduced, trespassing martins and

House Sparrows (*Passer domesticus*) were not tolerated. But on the third day territorial defense was abandoned; several birds of the same sex entered and remained in the same room of the martin house. A group of martins gathered on the south side of one of the martin houses, and birds of the same sex huddled together with no display of hostility.

All of the martins present at the colony spent most of the day and night of the third day in the largest of the 7 martin houses—this house was at least twice the size of the others. I counted as many as 10 martins using the same room for roosting on that night. Under normal circumstances only a pair at a time roosts in one room, and other martins are not allowed to perch on the porch in front of that pair's room.

In 1975 one martin at this colony and 3 at nearby colonies died following a 4-day period in mid-March when temperatures were 6°C or lower. These were the first martin deaths I could attribute to cold weather in the Sherman area since I began studying martins in 1969. During this cold period in 1975, the martins displayed behavior similar to that I observed in 1974.

Thus it appears, based on observations during 1974 and 1975, that Purple Martins in north central Texas cannot successfully forage at temperatures of or below 6°C, but that they can forage to some extent at 9°C, and at temperatures of 13°C they seem to be able to locate ample food to sustain their existence.

I am grateful to Warren M. Pulich, Sr., for suggestions on the preparation of the manuscript.—CHARLES R. BROWN, *2601 Turtle Creek Drive, Sherman, TX 75090.* *Accepted 13 Nov. 1975.*

How do cowbirds find and select nests to parasitize?—The widely accepted conclusion that female Brown-headed Cowbirds (*Molothrus ater*) usually, if not always, find and select nests to parasitize by watching the host's building activities (Hann, Wilson Bull. 49:145–237, 1937; Hann, Wilson Bull. 53:211–221, 1941) is based primarily on 2 frequent observations: (1) female cowbirds spend long periods surveying their surroundings and watching the building of nests (Norris, Wilson Bull. 59:83–103, 1947; Mayfield, The Kirtland's Warbler, Cranbrook Inst. Sci., Bloomfield Hills, Michigan, 1960; Mayfield, Wilson Bull. 78:162–166, 1961; Norman and Robertson, Auk 92:610–611, 1975); and (2) cowbirds usually synchronize their laying with the brief egg-laying period of the host (Hann, Wilson Bull. 53:211–221, 1941; Walkinshaw, Wilson Bull. 61:82–85, 1949).

Despite this evidence, it can be objected that occasional observations of female cowbirds attentively watching nest-building do not justify the conclusion that most host nests are found in this way. Also, synchronization of the parasite's laying with that of the host is not perfect, for cowbirds are known to lay during inappropriate stages of the host's nesting cycle (Hann, op. cit., 1941; Mayfield, op. cit., 1960; Norman and Robertson, op. cit.) as well as in abandoned, empty nests (Nolan, pers. comm.). It could be argued that cowbirds find many nests simply by searching and parasitize them whatever their stage of development (see, e.g., Norman and Robertson, op. cit.). But if hosts usually accept only cowbird eggs laid during their own egg-laying period, ejecting those laid at other times, cowbird eggs laid after the host's laying has ended would rarely be found. Rothstein (Am. Nat. 105:71–74, 1971) points out that ejected eggs will go unobserved and absence of parasite eggs is insufficient evidence to conclude that none was laid. However, the likelihood that stage-dependent differences in host acceptance actually occur is reduced by Rothstein's observations (Condor 77:250–271, 1975; Auk 93:675–691, 1976) that the stage of the host's nesting cycle (egg-laying vs. incubation) is not a strong factor affecting acceptance or rejection of cowbird eggs in all but one of the 30 species