

FROM FIELD AND STUDY

Temperature Fluctuation in the Smooth-billed Ani.—The occurrence of lowered body temperature in cuckoos (Cuculiformes) has not been reported, although Davis (Auk, 57, 1940:179-218) believed that the behavior of Smooth-billed Anis (*Crotophaga ani*) indicated a lack of ability to withstand low environmental temperatures. He was specifically referring to their clustering behavior during the cool morning hours and to their well known habit of perching in the sun with outstretched wings. Information on lowered body temperature with special regard to torpidity in birds has been reviewed by Bartholomew, Howell, and Cade (Condor, 59, 1957:145-155).

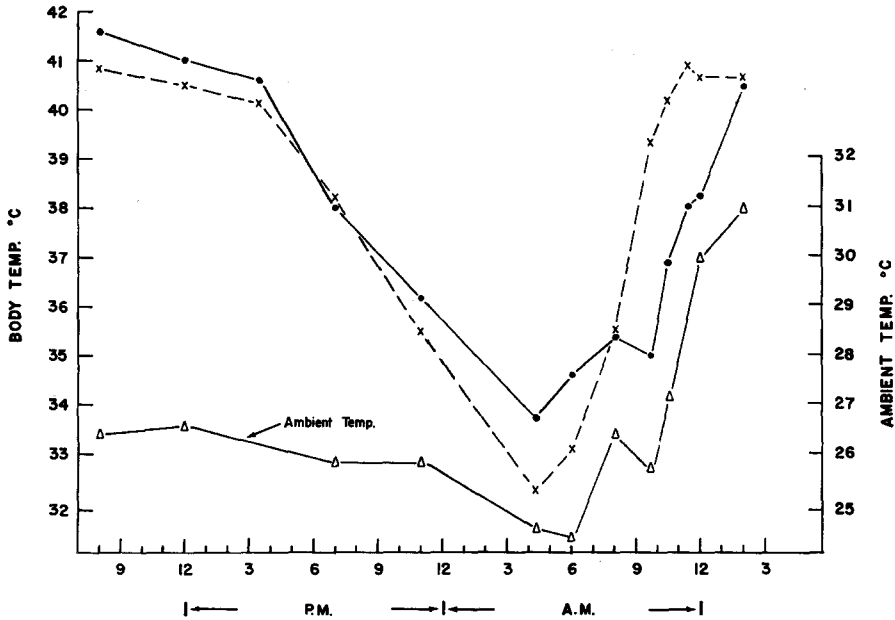


Fig. 1. Cloacal temperatures of two Smooth-billed Anis. At 7:30 a.m. one of the birds (dashed line) was placed in the sun while the other remained in a shaded situation. Ambient temperature was the same for both conditions.

Two Smooth-billed Anis were captured on the morning of August 19, 1959, near the train station at Los Frijoles, Canal Zone, Panamá. They were immediately transported to Barro Colorado Island and placed in a wire cage 6 feet long, 3 feet high, and 3 feet deep. Both birds were fairly active for the remainder of the day, but at night they became quiet and roosted with their bodies pressed close together. The following day they showed intermittent periods of activity and rest and at sundown again nestled close together on a perch.

At the time of capture the birds weighed 112.5 and 113.0 grams. This places them well above the weight range for adult females (Davis, *op. cit.*), so it was concluded that both birds were males. Both birds refused food for their entire period of captivity, which was 53 hours.

Body temperatures of these anis were read to the nearest 0.2°C. from a Schultheis thermometer inserted at least 2 centimeters into the cloaca. During the first night the birds showed no appreciable decline in body temperature. However, the second night the temperature of the birds decreased significantly from about 40.8°C. to 34.0°C. in one case and to 32.6°C. in the other (fig. 1). Even at these lowest recorded temperatures, it cannot be stated that the birds were in any way torpid. Their movements appeared to be as coordinated as those of wild birds during diurnal activity even to the extent that they were capable of flight. At 7:30 a.m. on August 21, one of the birds was placed in the sun

while the other remained in a completely shaded situation. The bird in the sun raised its body temperature about 5.6°C. in 4 hours, while the ani in the shade required 6 hours to achieve the same degree of increase. Both birds were released on the afternoon of August 21 and they immediately flew into the surrounding forest.

These cursory observations do not reveal whether or not a nocturnal temperature decline in the Smooth-billed Ani is a regular phenomenon, nor whether it is a result of starvation or of changes in environmental temperature. Possibly a condition of torpidity may be reached if the ambient temperature is sufficiently low. The feathers of this species amount to only 3.03 per cent of the body weight according to Davis (*op. cit.*) and they may prove inadequate for maintaining a large thermal difference with the environment. The temperatures of the Canal Zone may be moderate compared to those that individuals at the extremes of the range of the species might experience. If so, an ability to undergo torpor might be expected to occur in the Smooth-billed Ani.

The rate of increase of the body temperature beginning at 4:30 a.m. was extremely slow in the anis compared to that in torporous birds reported on by Bartholomew, Howell, and Cade (1957). The shaded ani required 9 hours to raise its temperature 6.4°C. The Poor-will (*Phalaenoptilus nuttallii*) studied by Bartholomew, Howell, and Cade achieved approximately the same increase in less than 3 hours with an ambient temperature of 25°C. No shivering during the temperature-increase period was observed in the anis such as is reported for the Poor-will by Howell and Bartholomew (Condor, 61, 1959:180-185). Although the sun must play some role in the heating of the birds after a nocturnal temperature decline, even the ani exposed to sunlight increased its temperature remarkably slowly. The high water vapor content of the air (relative humidity 78 per cent) reduced the amount of insolation effective for heating so that a black-bulb thermometer read only 47°C at 12 noon on August 21.

The habit in anis of several individuals pressing close together to roost no doubt reduces the heat loss and thus the rate of decline of body temperature at night. The benefits of this would be quite obvious considering the birds' poor ability rapidly to increase their temperatures.—JAMES W. WARREN, *Department of Zoology, University of California, Los Angeles, California, February 9, 1960.*

Sapsuckers Breeding in the Hualapai Mountains, Arizona.—On July 5, 1959, I collected a male Yellow-bellied Sapsucker of the race *Syphrapicus varius daggetti* (personal collection no. 23) near the 6000 foot elevation in the Hualapai Mountains, 15 miles southeast of Kingman, Mohave County, Arizona. The bird was taken from a tall oak tree near the Charles Elmer summer cabin, one mile east of the Hualapai Mountain Lodge. The owners of the cabin had requested that I get rid of the bird, because it had ruined their young Chinese Elm trees. They stated that they had seen this sapsucker every day since they had moved to their cabin one week before the date on which I took the bird. I did not measure the testes of this individual, but they were markedly enlarged.

I could not find any evidence of sapsuckers nesting in the immediate vicinity of the cabin. However, two miles south of the Elmer cabin and farther up on Aspen Peak at about the 7000 foot elevation sapsuckers were nesting. I collected a female *S. v. nuchalis* (personal collection no. 22) on the same date from a pair that was nesting twenty feet up in an aspen tree, 300 yards southeast from the main entrance of the Boy Scout camp in the Potato Patch. No attempt was made to examine the nesting cavities in the tree, but the calls of young birds were heard, and the head of a young sapsucker appeared momentarily in the entry way of one of the holes.

Both specimens were examined by Dr. Joe T. Marshall at the University of Arizona, who confirmed the identity of the two races. Dr. Thomas R. Howell of the University of California at Los Angeles also examined the specimen of the *S. v. daggetti*. Both men stated that the occurrence of this race in the Hualapai Mountains in July constituted an especially significant record.—JON B. COPPA, *Department of Zoology, University of Arizona, Tucson, Arizona, January 25, 1960.*

Bird Trapped by Sedge.—On the morning of December 10, 1959, while following a dirt road through a shady ravine on Estate Bellevue, St. Croix, Virgin Islands, I saw a bird in distress beside the track. It was flapping about in some low vegetation, and I thought at first it was sick or had been injured. On reaching it I found a Pearly-eyed Thrasher, *Maragarops fuscatus* (locally called "T'rush"),