The Ternery on Aves Island in March.—Aves, the island of birds, is an atoll in the Caribbean Sea lying at 15° 42′ N, 63° 38′ W, about 230 km west of the Lesser Antillean island of Dominica. According to "Sailing Directions for the West Indies, Volume II" (U.S. Navy Hydrographic Office Publ. 22: 100, 1963), Aves Island is "barren" and reaches an elevation of "18 feet" (ca. 5.5 m). It is true that there is no terrestrial vegetation except for tiny, ground-trailing herbs: however, the island proper is nowhere more than 3.5 m above sea level. There are three coral cairns there, made by the occasional visitors to Aves as an aid to navigation; the maximum elevation to the top of the highest (the second from the north end) is 5 m.

I went to Aves Island on the auxiliary sloop "Francmark," arriving on 5 March 1966. The next morning I spent ashore, conducting an elementary survey of physiography and animal life. The island is a crescentic sandbar. A reef, upon which heavy surf breaks, surrounds it, except for the central leeward (western) side. The sand is largely calcareous, with a good admixture of guano; there are chunks of coral and bones of sea turtles (*Chelonia*) scattered around. Both the northern and southern ends of the island are expanded, low plateaus 2 to 3.5 m above sea level; the central portion is a bight of low beach. Captain McLawrence, of the "Francmark," has visited Aves Island at least annually for about 20 years to collect sea turtles; he reports more or less continual minor changes in its shape, and remembers several occasions when the bight was open and the island divided in two. The total size, he reports, has remained virtually unchanged.

By pacing, I estimated the island's total length at less than 700 m; its greatest width is about 90 m. Although it has no terrestrial reptiles, amphibians, or mammals, there were six fresh sets of sea turtle tracks along the beach that morning. The ternery, which covers about 80 per cent of the island, is clearly audible 5 km at sea, to windward.

Three species of terns were nesting on Aves Island on 6 March 1966. The numbers of nests were estimated by pacing off a rough square containing approximately 1000 adult birds actually sitting on eggs or chicks; about 25 such areas comprise the island. After making allowances for different densities, my estimates for the three species are as follows:

Anoüs stolidus. Noddy Tern. 10,000 to 12,000 nests. Young birds, from downy chicks to fledged pulli, were everywhere abundant; the latter fled in flocks before me as I walked.

Sterna fuscata. Sooty Tern. 4000 to 5000 nests; perhaps 500 pulli.

Sterna anaethetus. Bridled Tern. About 1000 nests; no pulli identified.

Zuloaga (Geog. Rev., 45:172–180, 1955), a geologist, visited Aves Island in mid-April 1954 and reported on it in detail. With respect to its geological composition we are in complete agreement. However, Zuloaga found it about 500 m in length, and about 120 m in width at the widest point; the reasons for our disagreement over dimensions are apparent from examination of his sketch map: when I visited the island, the southern end extended in a long peninsula similar to the one shown by Zuloaga at the northern end; the northern peninsula was, in addition, proportionately longer. The prominent northeastern hump shown by Zuloaga accounts for its previously greater width; this hump was not prominent in March 1966.

Zuloaga estimated the area of the island at 52,000 m^2; it is not clear how he arrived at this figure. My own estimate is about 35,000 m^2; this seems in close agreement with Zuloaga's sketch map, and confirms the opinion that, while changes in shape occur, the area of the island remains about constant.

With respect to the composition of the ternery, we also disagree. Zuloaga reported the great preponderance of birds to be Sooty Terns; I found Noddy Terns outnumbering Sooty Terns by a factor of two or three to one. Clearly, the composition of the ternery was very different in April 1954 than in March 1966. Elucidation of this difference will require careful study of breeding cycles on the island.

It is with respect to number of birds that Zuloaga and I cannot be reconciled at all. He estimated between 500,000 and 1,000,000 birds to be present. I counted nests; if my maximum estimate (18,000) is doubled to account for both members of a nesting pair, and 14,000 birds are granted as an allowance for nonbreeding adults (although I made no attempt even to estimate these), I would still disagree with Zuloaga by a factor of at least 10. Calculating in a different way, I found about 80 per cent, or about 28,000 m^2, of the island occupied by nesting terns. This

yields an average nest density of 0.67 per square meter, or more than one nest in every two-square-meter plot. This agrees with my field observations, although in a few very small areas there were as many as four nests in a square meter. In other areas there were several meters between nests.

Phelps (Bol. Acad. Cien. Fis. Mat. Nat., 50:1–54, 1953) provides photographs (figs. 7, 8) that show essential agreement with my estimates of nest density.

It is difficult to base estimates on photographs, but Zuloaga's figure 3 seems also to agree with my maximum density, and was presumably taken of an area he felt would indicate the huge number of terns present. My estimates of numbers of nests are perhaps conservative. I cannot, however, make any allowances sufficient to reconcile my estimates with Zuloaga's, which I find patently incredible.

Sooty Terns are reported by Ashmole (Ibis, 103b:297–364, 1963) as breeding in March in the Southern Hemisphere, on Ascension Island. Noddy Terns are also recorded, by Dorward and Ashmole (Ibis, 103b:447–457, 1963), as nesting there at this season, and as nesting at approximately the equator in the Galápagos by Lévêque (Alauda, 32:5–44 and 81–96, 1964). Robertson (Bull. Florida State Mus., 8:1–94, 1964) does not record any breeding activity during the winter months in the Dry Tortugas. Bridled Terns have not been previously recorded as breeding on Aves Island.

In addition to terns, Aves Island is inhabited by spiders (of three families), beetles (of two families), crickets, centipedes, ants, amphipods, and ticks of the genus *Ornithodoros*. The ticks are especially abundant, and probably take a considerable amount of blood from terns, although they are free-living and do not actually imbed themselves in the birds.

Without the uncanny ability of Captain McLawrence to navigate despite a false horizon, I would never have seen Aves Island. K. E. Hyland was kind enough to identify the ticks. The trip was supported by the New York Zoological Society.—JAMES D. LAZELL, JR., *Department of Zoology, University of Rhode Island, Kingston, Rhode Island, 20 May 1966.*

Nest-Robbing Behavior of the Sparrow Hawk.—Sparrow Hawks (*Falco sparverius*) have frequently been observed under the pressure of tremendous harassment from certain passerines. Young Sparrow Hawks have actually been knocked from their perches by irate robins, and swallows at times attack with such intensity that the hawks are forced to seek cover. These activities seem much more intense than the usual responses of passerines to birds of prey, and suggest the existence of species-specific defense reactions.

Bonnot (Condor: 23:136, 1921) observed a Sparrow Hawk taking an adult Cliff Swallow from its nest. White and Behle (Univ. of Utah Anthropol. Papers, 48:193, 1960) reported that a young Violet-green Swallow was taken from its nest, despite much harassment by many adults. Drinkwater (Auk 70:215, 1953) saw a female Sparrow Hawk reaching into a bird house to capture young bluebirds. William Yancey, of Boise, Idaho, related to the author an incident in which a Sparrow Hawk flew directly into a House Sparrow's nest, dislodging the occupants, one of which was caught by the hawk. On 12 June 1965 at Provo, Utah, a Sparrow Hawk was observed tearing the top from a House Sparrow's nest while under harassment by a pair of robins. This particular hawk searched several trees in what appeared to be a rather systematic manner. On another occasion, a Sparrow Hawk was seen with a fledgling robin that must have been removed from a nest. Here again, the raptor was being harassed by robins. Other observations have been made where Sparrow Hawks were seen inspecting House Sparrow nests while the adults flitted helplessly nearby.

Judging from the above observations it seems likely that the unusually intense harassment of the Sparrow Hawk by certain passerines has resulted from its nest-robbing behavior, which is probably more common than generally noted.—GERALD L. RICHARDS, *Department of Zoology and Entomology, Brigham Young University, Provo, Utah, 2 March 1966.*

The Baird's Sparrow and Burrowing Owl in Missouri.—The A.O.U. Check-list of North American Birds (1957:592) does not list Missouri as part of the migratory range of Baird's Sparrow (*Ammodramus bairdii*). Central Texas, central Oklahoma, and western Kansas are given