

We should here recollect the general coloration of the Canyon Wren as seen in full view close at hand. It is solidly dark brown, save for the brilliant white throat and chest. This expansive white area is well set off by the otherwise dark hue of the body. In shadow, the dark contour of the bird as seen in front or from the side vanishes, and there remains, reflecting what little light there is, the satiny white of the foreparts. And the "nervous" mannerism of the bird—the spasmodic squat and recovery and the side-to-side swing—means the abrupt movement of this white area in such a manner as to quickly attract the attention of an observer.

The interpretation which would most generally be offered for this combination of large contrasting white chest with dark inclosing area is that of a "directive" marking. By its means individuals of a family would be quickly apprised of one another's presence. This directive marking would be particularly useful in the case of a family of young still dependent for food upon their parents. The crevices in the rock faces, of course, provide the food materials. It is to the advantage of the family that the young keep in close touch with their foraging parents, so as quickly to receive the food items retrieved.

I am quite ready to concede the "directive" value of the Canyon Wren's scheme of coloration, and would emphasize its value under the conditions of shadow in which the birds normally forage. It has occurred to me, however, that there is another significance of the white breast, a value not in conflict with the one just indicated, and this value is realized by each individual bird independently of its associates and throughout the year. This is in the *reflection* of whatever light there may be from the white throat and chest *into* the small chinks and crannies of the rock surface which the bird is scrutinizing; in other words, the brilliant white has an *illuminating* effect upon the surface that is being searched for minute objects. A further factor enters, that of movement. The bird is continually facing this way and that, which means the shifting of the shadows of small objects on the background, correspondingly, that way and this. The rounded surface of the bird's foreparts means that *some* light is caught and reflected, whatever the bird's position relative to the direction of the outside daylight. Practically anywhere that the bird can see at all, its white area would thus help it to distinguish small objects. One can test the principle apparently here involved by twisting a piece of white paper around his finger and trying out the illuminating effect on the wall in a photographic dark-room, where a limited shaft of daylight is allowed to enter.

We can go farther, and find other instances of the utilitarian scheme of coloration here seemingly in evidence. Think of other shade and crevice hunters: the Bewick Wren, the Creepers, the White-breasted Nuthatch, and certain Woodpeckers.

The constitutionally skeptical, of course, will immediately come back with citations of other wrens, nuthatches, and woodpeckers which have dull or dark-colored breasts. Entirely different factors may, however, in such cases come into play, modifying the situation altogether. I believe a fairly sound interpretation of its significance can be found for practically every feature or combination of features displayed by any animal. In seeking such meanings one is not necessarily guilty of idle or hopeless speculation.—J. GRINNELL, *Museum of Vertebrate Zoology, University of California, Berkeley, September 14, 1923.*

**The Raided Rookeries of Laysan, a Belated Echo.**—A quarter of a century ago the two species of albatross found on the coast of California, *Diomedea nigripes* and *D. albatrus*, collectively known to those who go down to the sea in ships as Goonies, were as much a part of the ocean outside of the hundred fathom curve as were the gulls along shore. Ten miles from land they were almost certain to be found, and in the waters nearer land they were by no means uncommon. As a matter of fact the writer has, on one or two occasions, seen the Black-footed Albatross in San Diego Bay. A trip to the Coronado Islands was not often made without sighting one or more of these stately petrels.

In sailing from the southern ports to San Francisco and more northern harbors, from one to four or five albatrosses usually accompanied the steamer, ever alert to claim a full share of the refuse from the galley, until within a few miles of the enclosed waters. In offshore expeditions, it was not unusual to be followed for days by six or eight birds, that were never, day or night, more than a mile or two

from the ship. So far as my experience goes, there was no particular time of year when either species was more abundant, and from the several collected at different seasons, I would say that all that visited the shores of southern California were non-breeders. Nor have I ever seen a specimen of *D. albatrus* in white plumage along the shores of the United States south of about 50°. While *albatrus* was almost or quite as common as *nigripes* as far south as 25° N. Lat., all were in the dark plumage.

In 1887 I noted an albatross in white plumage off San Geronimo Island, 30° N., which I now know to have been *D. immutabilis*. During the next five years half a dozen others were seen, all within forty miles of that island, though none was taken until 1897, when a specimen was shot within a few miles of Geronimo. Just why all the records should have been in the near neighborhood of San Geronimo is a question that I have often pondered since that day, as the rest of the coast, north and south, was equally well explored.

The present status of the genus *Diomedea*, with respect to the coasts of southern California and the Peninsula, is that of a species all but extinct. During the past three years, some 1000 miles of their former haunts, north of the Mexican boundary line, have been covered, without discovering a single bird. In 1922-23, over 2000 miles of ocean was explored, between San Diego and Magdalena Bay, with the net result of eight or ten seen. In 1897 I have seen that many at one time; and the same distance, over the same water, would have totalled 500 albatrosses. The conditions were most strongly presented to me when, on a recent trip to Guadalupe Island in company with Mr. L. M. Huey, we sighted one lone Black-footed Albatross, and he told me that it was the first of the genus he had ever seen alive. This, too, after fifteen years of collecting, a fair part of which time was spent with the sea birds, and over a section that must certainly have made the bird familiar twenty-five years ago. There can be no question that the difference is entirely the result of the slaughter of the birds on the islands between Hawaii and Japan in 1909, when 250,000, mostly albatrosses, were killed by the Japanese for the feather market.

The Short-tailed Albatross is known to have nested on Bonin Island, south of Japan, an island the Japanese have fortified within recent years. Whether they destroyed all of this species is a question open to debate. During the past three years I have not seen or heard of either *albatrus* or *immutabilis* along the coast of Lower California.

Prior to 1900 one might count with reasonable certainty on sighting one or two Tropic Birds along the coast of the Peninsula, between 28° and 31° N. Lat. At no time were they common, but I seldom made the voyage from Cedros Island north without noting one or two. The only one that I ever secured proved to be the Red-tailed Tropic Bird, *Phaethon rubricaudus*, a species nesting on Laysan, one of the islands raided by the Japanese. During the voyage of the Mexican patrol boat, "Tacate," in 1922-23—some 2000 miles—we saw no Tropic Birds at all, nor were the sailors familiar with the species, though sailing these waters constantly. There is little doubt that the tropic bird found in the Gulf of California and south, *P. aethereus*, is still fairly abundant, if, indeed, it is not as common as it was fifty years ago, which leaves us to wonder if it was not *P. rubricaudus* that formerly reached our shores regularly and is no longer seen because of the depredations on the mid-Pacific islands, some fourteen years ago.—A. W. ANTHONY, *San Diego, California, August 31, 1923.*

**Sparrow Hawk Attacking Robins.**—On September 6, 1923, I happened to be encamped at the Bogard Forest Service Station, which is located a few miles southeast of Poison Lake, Lassen County, California, at an elevation of approximately 6000 feet. The station is in a small grove of lodgepole pines, which extends along a small stream that soon loses itself in the sagebrush and lava-covered plain.

While out for an early ramble, looking for avian migrants among the clumps of willows near the stream, my attention was attracted by a flock of Western Robins (*Planesticus migratorius propinquus*) which had evidently just arrived upon its way south. There was much activity going on among the individuals of which the flock was composed and constant flying to and fro between the pine trees and the floor of the little open meadow adjacent to the grove. In this meadow swarms of grasshoppers were doing their best to deprive the station horses of their share of the grass that was growing there.