

REMARKS UPON THE CLOSE RELATIONSHIP BE-
TWEEN THE WHITE AND SCARLET IBISES
(*EUDOCIMUS ALBUS* AND *E.*
RUBER).

BY ROBERT RIDGWAY.

THE White Ibis (*Eudocimus albus*) and the Scarlet Ibis (*E. ruber*) agree minutely in the details of structure, in size, and in pattern of coloration. The former, however, in the adult stage is white, with greenish black tips to the outer primaries, while the latter is intense scarlet with blue-black tips to the same feathers. Both have red bills and feet, and blue irides, although the bill is sometimes blackish, especially toward the end. In other words, an *E. albus* dyed scarlet would be indistinguishable from an *E. ruber*, while a specimen of the latter with the red coloring destroyed by some artificial process would in all respects pass for an *E. albus* but for the different gloss to the black quill-tips. It is known that when kept in zoölogical gardens in temperate climates the Scarlet Ibis loses its scarlet livery and assumes a pinkish or rose-colored dress. In the 'Guide to the Gardens of the Zoölogical Society of London,' this circumstance is mentioned, in the following words: "Nothing can be more intense in color than the Scarlet Ibis, when its plumage is developed under the hot sun of tropical America. In Europe, however, it rarely reproduces this gorgeous livery; and at each successive moult the adult birds usually become more pale." Mr. J. H. Gurney calls attention to the same fact in 'The Ibis' for July, 1883, page 392, and says that this bird when brought alive to England in full adult plumage "loses its gorgeous crimson coloring at the next moult and assumes a rose-colored livery, which it retains as long as it survives in this country." He furthermore states (p. 393) that Mr. Bartlett, superintendent of the Zoölogical Society's Gardens in London, informs him that he has "verified this by observations during a long series of years."

If so great a modification of plumage is wrought in the same individual by changed conditions of environment, it seems not impossible that a further change of color might ensue in the progeny of birds breeding in colder climates (assuming that they

would do so), and that successive generations would eventually become pure white, with little if any red tinge.*

The geographical range of the two species suggests, from this standpoint, such a relationship between the two species, *E. ruber* being strictly tropical, and scarcely extending beyond the parallel of 20° north latitude, except as an accidental straggler, while *E. albus* is decidedly more northern, its centre of abundance lying between the parallels of 20° and 30° north.

The importance of this case as affecting the status of certain so-called dichromatic species of water-birds (notably among Herons) is very great. Probably no one would be willing to consider *Eudocimus ruber* and *E. albus* as dichromatic phases or races of one species; yet they are apparently as much so as *Ardea occidentalis* and *A. würdemanni* or *A. wardi* on the one hand or *Dichromanassa rufa* and *D. pealei* on the other; or at least, the probability of their common origin is evident.

A nearly parallel example is afforded by the Snow Goose (*Chen hyperboreus*) and Blue-winged Goose (*C. caerulescens*). In 'North American Water Birds,' Vol. I, page 437, the absolute similarity of size and proportions, involving all structural details, in these supposed species, notwithstanding the great difference of colors, is alluded to, as "a fact which suggests the mere possibility of their being white and colored phases of one species, as in some Herons," and that, the chief variations in *A. caerulescens* being a tendency to increased extent of the white markings, "the possibility of such a relationship should be borne in mind."



ON THE OCCURRENCE OF THE WHITE-WINGED GULL (*LARUS LEUCOPTERUS* FABER) IN THE STATE OF NEW YORK.

BY GEORGE N. LAWRENCE.

EARLY in March of this year, I was requested by Mr. John G. Bell, to examine a Gull which had been sent to him to be

* I am informed by persons who have shot *E. albus* in Florida that the plumage of living and freshly killed birds is decidedly tinged with pink or rose-color.