

IMMATURITY VS. INDIVIDUAL VARIATION.

BY NATHAN CLIFFORD BROWN.

Many readers of the Bulletin are doubtless familiar with a phase of plumage of *Zonotrichia albicollis*, occurring in spring, which appears to be the normal dress of this species in immaturity, indicating, therefore, that its representatives do not attain their finest livery until the second year of their existence. In this plumage the bird appears as follows: The back, wings, and tail are essentially as in most adult specimens. There are black maxillary stripes. The breast is dull gray, lacking the bluish cast seen in high plumage; it is distinctly streaked. The throat is grayish-white or rather clear gray, either slightly or not at all contrasted with the breast. The yellow before the eye is very limited in extent and of a dull, greenish tint. The superciliary and median coronal stripes are gray mixed with brownish and dusky. Brown rather predominates in the other markings of the head. In the middle of the breast is a dusky spot, much as in *Spizella monticola*.

Feeling that all the distinctive features of this attire indicated immaturity, I was surprised, in October of the present year (1882), to procure specimens of *Z. albicollis* unquestionably in their first year, as proved by careful dissection, clad in a dress practically identical with that of maturest spring birds. The circumstance naturally suggests the existence of two geographical races of this species, but the true explanation appears to be offered by evidence which I have recently accumulated in two precisely analogous cases,—those of *Loxia americana* and *L. leucoptera*.

The announcement that males of the two North American species of *Loxia* sometimes—nay often—assume their full reddish dress in the autumn of their first year, will excite the surprise and perhaps the incredulity of ornithologists; yet, unless osteological data which I have always considered infallible are to go for nothing, they certainly do so, and the greenish and yellowish examples, commonly called immature, simply illustrate remarkable and extreme individual variation.

On November 9, 1882, I found both species of Crossbills unusually numerous in Scarborough, Maine. Wishing to obtain a good autumnal series, I used my gun freely among them and procured specimens illustrating almost every known phase of plumage except that of nestlings. Of males there are highly-colored red birds, yellowish birds, greenish birds, and birds in a garb of mixed colors. In the case of some of them traces of the first plumage unmistakably indicate immaturity,* and these birds agree exactly with all of the others in an osteological condition which stamps the entire lot as young of the year. The vertex of the skull is incompletely ossified; it is easily indented by the edge of my thumb nail; and it is *perfectly transparent*, the texture of the brain and its blood vessels being plainly discernible underneath. According to my experience, resulting from dissection of nearly four thousand specimens of North American birds, this is a condition which cannot exist in any Passerine species after maturity.

But for a severe attack of illness which, almost immediately after the capture of the birds above mentioned, put a stop to my investigations for the season, I should have had more elaborate evidence to offer as the result of systematic dissection. As it is, however, the decapitated bodies of my two rosiest examples of *Loxia leucoptera* passed under the knife of Mr. J. Amory Jeffries, of Boston. First stating that from this incomplete material no positive deduction can be made, Mr. Jeffries gives his opinion of the comparative maturity of the specimens as follows:

“The fasciæ joining the borders of the iliac bones to the vertebræ seem to be less dense and broad than in most adult Finches. The syrinx appears to be rather small for a Sparrow (though not knowing the species I cannot be positive), which points to youth. Certain divisions and relations of the muscles point to the same conclusion. The same is true of the flexible tendons of the extensor muscles of the back. The condition of the testes and vasa deferentia—both specimens being males—points to a young bird. On the other hand, I can find nothing indicative of extreme age or that is diagnostic of adult life. Finally, the birds would seem to me to have been hatched in the spring and shot in the fall.”

* There are such specimens of *L. leucoptera* in the reddish phase.

It can hardly be doubted that many similar examples of extreme individual variation remain to be detected. Among the Terns two cases almost exactly parallel with those I have mentioned have already been brought to light by Mr. William Brewster,* though in these instances the author's arguments were based wholly upon the evidence offered by plumage, and, as a result, a generally accepted species was reduced to the rank of a synonym. A state of things no less remarkable is now familiar to ornithologists in the frequent melanism, partial or entire, seen in several species of Hawks; in the pure dichromatism of certain Owls and Herons; and in the irregularity with which the waxy appendages are assumed in the genus *Ampelis*.

NEST AND EGGS OF LECONTE'S THRASHER (*HARPORHYNCHUS REDIVIVUS LECONTII*).

BY G. HOLTERHOFF, JR.

In an article published in the "American Naturalist" for March, 1881, I gave a short description of the nest and eggs of Le Conte's Thrasher. As I believe these to be the first eggs known of this rare Thrasher, and as yet unique, I will endeavor to give a more complete and exact description of the set. The "find" was made near a small station on the Southern Pacific Railroad, called Flowing Wells. This is in the heart of the Colorado Desert, about seventy-five miles north of Fort Yuma. The country thereabout is a barren, sandy desert, broken by an occasional dry arroyo or river bed, scarce worthy of the name, as they are only rivers when bearing off the deluge from some fortuitous cloud-burst. Scattered sparingly along the course of these fickle streams is a stunted growth of mesquite and palo-verde trees, the commonest and most typical forms of desert vegetation. It was while wandering up one of these arroyos, wearied and almost parched by the fierce heat, that I caught sight of a dusky-gray bird flitting from bush to bush, always in short, jerky flights, and close to the ground. Expectation cheered my footsteps. The bird, alighting

*Some Additional Light on the so-called *Sterna Portlandica*, Ridgway. Ann. Lyc. Nat. Hist., N. Y., Vol. XI, pp. 201-207.