

as to what the climate may have been in those times. . . . To speak again of the climate, it might well be compared with the present climate of Florida and the lower part of Louisiana, with the vegetation fully as luxuriant as it is now in those parts and with the palms more abundantly represented."

Dr. Shufeldt's memoir is thus a very interesting and important contribution to the early history of bird life in North America. Although he has fortunately had a comparatively large amount of material for examination, the field is obviously not exhausted, so that much may be hoped from further exploration of even this same region.—J. A. A.

Shufeldt on *Ichthyornis*, and on the Classification of the Longipennes.

— In a paper entitled 'Comparative Osteological Notes on the Extinct Bird *Ichthyornis*'¹ Dr. Shufeldt reaches the conclusion that this type, while resembling in many points the Gulls and Terns, shared more characters in common with the Skimmers. Much of the paper is, in fact, given up to a discussion of the relationship of the Skimmers (*Rhynchopidæ*) to the *Laridæ*, reaching the conclusion that while the Gulls and Terns gradually approach each other, through such forms as *Xema*, *Creagrus*, and *Gelochelidon*, as long since stated by Coues, the Skimmers are sharply separated from either, and are well entitled to the rank of a distinct family, as placed in the A. O. U. Check-List. In a later paper² he returns to the subject, and after reviewing various previous classifications of the group, proposes that already adopted in the A. O. U. Check-List as best agreeing with his extended osteological studies of the North American forms.—J. A. A.

The Affinities of Hummingbirds and Swifts.—The pros and cons of the relationship of Hummingbirds and Swifts have recently been presented in various more or less controversial papers on the subject by Dr. Shufeldt³ and Messrs. Ridgway⁴ and Lucas.⁵ As is well known, Dr.

¹ Journ. Anat. and Phys., XXVII, pp. 336-342.

²On the Classification of the Longipennes. By R. W. Shufeldt. Am. Nat., March, 1893, pp. 233-237.

³Ridgway on the Anatomy of Hummingbirds and Swifts. By R. W. Shufeldt. Am. Nat., April, 1892, pp. 869, 870.

Ridgway on the Anatomy of the Hummingbirds and Swifts.—A Rejoinder. By R. W. Shufeldt. Am. Nat., April, 1893, pp. 367-371.

Comparative Notes on the Swifts and Hummingbirds. By R. W. Shufeldt. Ibis, Jan., 1893, pp. 84-100.

⁴Shufeldt on the Anatomy of the Hummingbirds and Swifts. By Robert Ridgway. Am. Nat., Dec., 1892, pp. 1040, 1041.

⁵Swifts and Hummingbirds. By Frederic A. Lucas. Ibis, July, 1893, pp. 364-371 (with nine cuts in the text).