Fringillidæ and covering part of the Alaudidæ, comprising the species numbered 185 to 394. It well merits the high praise accorded Part I, already noticed,[1] maintaining of course the same characteristics as regards scope and method of treatment. The present brochure includes 80 species and 130 additional subspecies, of which 20 of the latter are described as new, and many others are indicated as new and given consecutive numbers but are not formally named. As the number of forms treated is 210, about ten per cent of the whole are characterized as new. Of the genus *Loxia* three species are recognized, with eight additional subspecies, exclusive of four North American forms mentioned in footnotes, making fifteen recognized forms in all. These include three new subspecies of the *L. curvirostra* group,—one from Spain, one from Scotland, and another from England. In place of *L. curvirostra minor* for the common Red Crossbill of northeastern North America Mr. Hartert adopts *L. curvirostra americana* (Wilson, 1811), *americana* Wilson having forty-two years' priority over *minor* Brehm (1853); but a previous *Loxia americana* (Gmelin 1789) renders Wilson's name untenable.

In the account of the Alaudidæ *Otocoris* is not yet reached, but in some of the other genera of the family there is a striking array of subspecies, *Galerida cristata* having twenty-one (plus three doubtful), and *G. theklæ* eight, and a number of other species of the family have each six to eight or more, indicating the unusual plasticity of the family.—J. A. A.

Kirtland's Warbler. —Two papers have recently appeared dealing with this rare warbler, one of which, by Prof. Charles C. Adams,[2] treats of its migration route, the other, by Mr. Norman A. Wood,[3] of its breeding area. As stated by Mr. Adams: "During the past year more has been added to our knowledge of this bird than during all of the preceding fifty-three years which have elapsed since its discovery." Mr. Adams confines his paper to a consideration of the spring migration records, the species wintering in the Bahamas and breeding in northern Michigan. Dr. L. Stejneger is quoted on the importance of determining the route of this warbler, and the light its discovery would throw upon the problem of "the road by which in past ages part of our fauna entered their present habitat" (Am. Nat., Vol. XXXIII, 1899, p. 68, in a review of Butler's 'Birds of Indiana'). Professor Adams considers first, and at some length, the migration routes and breeding area of the Prothonotary Warbler, taking Louck's paper on this species (Bull. Illinois State Lab. Nat. Hist., IV, 1895, pp. 10–38, and Osprey, II, 1898, pp. 99, 111, 129,) as the basis of

[1] For notice of Part I, see Auk XXI, 1904, pp. 94, 95.

[2] The Migration Route of Kirtland's Warbler. By Chas. C. Adams. Bull. Michigan Orn. Club, Vol. V, pp. 14–21, March, 1904.

[3] Discovery of the Breeding Area of Kirtland's Warbler. By Norman A. Wood. Bull. Michigan Orn. Club, Vol. V, pp. 3–13, March, 1904.

comparison, and the map of the breeding area here given is an adaptation of Louck's map. "The map of the breeding area is," he says, "also a map showing the path of the spring migration, and also, in all probability, the path by which the species has found its way to its present breeding area since the Ice Age." He then compares the distribution of Kirtland's Warbler with that of the Prothonotary, presenting a similar map of its migration records, from about the mouth of the Ohio River northward. He finds that the birds on leaving the Bahamas reach Florida and South Carolina during the latter half of April and early part of May, and assumes that they pass west by way of the Pine Barrens to the Mississippi; they occur in the Mississippi and Ohio drainage basins during May, reaching their breeding grounds in Oscoda and Crawford Counties, Michigan, early in June. He is, however, unable to "understand the South Carolina records." As the extreme east and west records are respectively Toronto and Minneapolis, "it suggests that the breeding area may be extensive." He adds a map showing "lines of glacial drainage or shore lines, to show the relations of those topographic features to bird migration routes." If Kirtland's Warbler was one of the "early species to push north, it is but natural that it should follow such highways, as it is along such valleys and shore lines, at that time, that the vegetation would make its most rapid extension northward." The latter part of the paper is thus suggestive, but adds little in the way of positive information.

Mr. Wood relates in detail his experiences in pursuit of the breeding place of this warbler, his discovery of its haunts, and the long and careful search for its nest, finally rewarded by the discovery of two nests, one of which, found July 8, contained a perfect egg and two young birds about ten days old; the other nest, found July 9, contained five young, also about ten days old. An attempt to rear the young naturally failed. Five adult males and three adult females were taken, in addition to the nests, egg, and seven nestlings. The song and the habits of the birds as observed in their breeding haunts are minutely described, and descriptions and half-tone illustrations are given of the egg and nests, of the sites where the nests were found, and of the mounted group of these birds now in the Museum of the University of Michigan, prepared by Mr. Wood from the materials obtained on this expedition. Although preliminary notices of these discoveries have been published, this paper forms the most important contribution thus far made to the history of the species, which is at last removed from the small list of North American birds whose nests and eggs and breeding habits still remain unknown. — J. A. A.

Forbush on the Destruction of Birds by the Elements.[1] — After some

[1] The Destruction of Birds by the Elements in 1903–04. Special Report. By Edward Howe Forbush, Ornithologist to the State Board of Agriculture. Fifty-first Ann. Rep. Massachusetts State Board of Agriculture, pp. 457–503.