

tion and other conditions. Some thirty or more forms — species and races — are now recognized, and to facilitate their discussion a synopsis of them, in the form of a key, with their distribution, is given in a footnote. The group, with its peculiar geographical distribution and its several rather distinct types of coloration offers a tempting subject for speculation, which our author has utilized in a most interesting and fairly conservative way, emphasizing at the same time the great dearth of material at present available for study in relation to many of the forms. As Dr. Stejneger says: "All these questions are of the utmost importance and interest, but with the present utterly inadequate material at the disposition of the ornithologist, it is scarcely possible to more than lift a corner of the veil. Until the true inter-relations of these birds have been ascertained; until the distribution of the forms thus established has been actually mapped in considerable detail; and until the results thus gained have been verified by correlation with the physiographic features of the country in the field by competent observers; until then we shall have nothing but guesses. . . . I need only mention that no less than nine different forms of palæartic dippers have been described during the last two years, the scant material upon which these are mostly founded being distributed among six different museums." Nor is the case of the dippers an isolated instance; it is merely a forcible illustration of the condition of such problems in general, not only in the palæartic field, but over the greater part of the world's surface.— J. A. A.

Scott 'On the Probable Origin of Certain Birds.'¹— The birds here referred to, nine in number, are all included in the 'Hypothetical List' of the A. O. U. Check-List, and are the following: *Tringa cooperi* Baird, *Acanthis brewsteri* Ridgw., *Emberiza townsendii* Aud., *Helminthophaga lawrencei* Herrick, *H. leucobronchialis* Brewster, *Sylvia carbonata* Aud., *Sylvia montana* Wilson, *Muscicapa minuta* Wilson. Two of them, *H. lawrencei* and *H. leucobronchialis*, are discussed at length, the other seven being disposed of in few words, his conclusion respecting them being that "the law of parsimony [whatever that may be] compels me to consider these forms as mutations (which were not perpetuated) from *species still existing* which I have, in most cases, been able to indicate." Of four of them the unique type specimen is still extant; the other three are known only from the works of Wilson and Audubon.

In accounting for the origin of all of these nine forms he resorts to de Vries's hypothesis of mutants. In considering the two forms of *Helminthophila*—*lawrencei* and *leucobronchialis*— he emphatically rejects the current hypothesis of hybridity to account for their origin, for, he says, "though hybrids do occur among wild birds, they can be considered at

¹On the probable Origin of Certain Birds. By William E. D. Scott. Science, N. S., Vol. XXII, pp. 271-282, Sept. 1, 1905.

best as only casual, and the infertility of hybrids, especially among the higher animals, is too well known to need further comment here"! He believes that in the case of these two forms, "we have examples of two separate and distinct 'mutations' from a common parent stock or species. That is," he continues, "I believe that *H. pinus*, early in the last century became unstable as a species and began to throw what must be considered as 'mutants,' taking de Vries's definition of the word." He concludes with the following: "In the light of the evidence set forth only one answer can be made to the question as to the part that the process defined by de Vries as mutation is playing among higher animals to-day. Beyond doubt we have witnessed the birth of new species of birds during the past seventy years. Moreover, some of these new species have flourished so as to have become a salient part of the bird fauna in the region where they occur and where they were unknown to skilled ornithologists, who carefully studied these regions in the early part of the last century." Elsewhere in his paper he lays great stress on the fact that these forms were unknown to "such keen field naturalists as Audubon and Wilson, [Nuttall,] Lawrence, Coues and Prentiss."

Having elsewhere replied¹ in considerable detail to Mr. Scott's paper, we will here merely state, (1) that the area where these birds have been found (except in the case of a very few migrants) was wholly outside of the regions studied by the above named "keen field naturalists," and that their ignorance of these birds does not imply their absence from the area where they have since been found in some numbers, and their probable recent origin; (2) that these birds do not present the stable character observed in mutants, which always breed true; (3) that they occur only where the breeding ranges of *Helminthophila chrysoptera* and *H. pinus* overlap, and are thus strictly comparable with the hybridity seen on a grand scale between *Colaptes cafer* and *C. auratus* over the extensive region where their breeding ranges overlap; (4) that Mr. Scott has not shown a very clear grasp of the facts in the case of these warblers, or of the real character of mutants; (5) that the hypothesis of hybridity, plus more or less tendency to dichromatism, satisfactorily accounts for *H. lawrencei* and *H. leucobronchialis* and their endless variants.—J. A. A.

Clark's 'Birds of the Southern Lesser Antilles.'—This paper, of over one hundred pages,² relates to Barbados, St. Vincent, the Grenadines, and Grenada. Twenty-five pages of introductory matter treat of the 'Literature,' 'Geology and Geography' (pp. 206-215), 'Meteorological and Geological Phenomena' (hurricanes and volcanic eruptions), 'Present Status of Bird Life,' 'Locally Extinct Species,' 'Introduced Species,' 'Exported

¹Science, N. S., Vol. XXII, No. 562, pp. 431-434, Oct. 6, 1905.

²Birds of the Southern Lesser Antilles. By Austin H. Clark. Proc. Boston Soc. Nat. Hist., Vol. XXXII, No. 7, pp. 203-312. Oct., 1905.