

subject of bird migration, its causes and methods, based on the writer's long experience and mature reflection. The 'facts' here presented are of highest interest; the theories and suggestions, while original as regards their presentation in the present connection, are but to a small extent novel, and in the main confirmatory of hypotheses previously suggested; but for this reason they lose none of their interest or value. The paper is not only an able presentation of the subject in its general aspects, but is a valuable contribution to this interesting subject, through the presentation of much new and valuable matter.—J. A. A.

Minor Ornithological Publications.—The 'American Naturalist,' Vol. XIX, 1885, contains, besides extracts and abstracts from other publications, the following (Nos. 1037-1041):

1037. *A Crow [Corvus americanus] Cracking Clams.* By S. Lockwood. *American Naturalist*, Vol. XIX, April, 1885, p. 407.—By dropping them on a fence.

1038. *The Turkey Buzzard breeding in Pennsylvania.* By Witmer Stone. *Ibid.*, p. 407.—Several instances of its breeding in Chester County recorded.

1039. *Birds out of Season—a Tragedy.* By Charles Aldrich, *Ibid.*, May, 1885, pp. 513, 514.—A Chewink (*Pipilo erythrophthalmus*), wintering at Webster, Ia., was finally killed by a Blue Jay, after it had for weeks braved a temperature of -20° to -35° .

1040. *Harelda glacialis at New Orleans.* By G. Kohn. *Ibid.*, Sept. 1885, p. 896.—An old male in winter plumage was shot on Lake Catherine Feb. 28, 1885.

1041. *The Problem of the Soaring Bird.* By I. Lancaster. *Ibid.*, Nov. and Dec. 1885, pp. 1055-1058, 1162-1171.

'Science,' Vols. V and VI, 1885, contains the following (Nos. 1042-1054):

1042. *The coming of the robin and other early birds.* By Dr. C. Hart Merriam. *Science*, Vol. IV, pp. 571, 572.—On the arrival of the Robin (*Merula migratoria*) at various places in North America in the spring of 1884, and a summary statement of the average dates of arrival of various other species in the latitude of New York City and Southern Connecticut.

1043. *A second phalanx in a carinate bird's wing.* By Dr. G. Baur. *Ibid.*, V, May 1, 1885, p. 355.—"A rudiment of a second cartilaginous phalanx in the third digit" found "in an embryo of *Anas domestica*."

1044. *A complete fibula in an adult living carinate-bird [Pandion carolinensis].* By Dr. G. Baur. *Ibid.*, May 8, 1885, p. 375.

1045. *A complete fibula in an adult living carinate-bird [Colymbus septentrionalis].* By Dr. R. W. Shufeldt. *Ibid.*, June 26, 1885, p. 516.

1046. *Untimely death of a chipping sparrow.* By W. L. Poteat. *Ibid.*, VI, July 24, 1885.—Hung by the neck by becoming entangled in a horse-hair from its nest.

1047. *The Audubon collection of birds presented to Amherst college.* Editorial. *Ibid.*, Aug. 14, 1885, 140.—"There are about six hundred skins

of birds in the collection, some of which are labelled in the handwriting of Audubon himself, and many of which are the typical specimens by which the species were determined." About one hundred of them have been mounted by Prof. H. A. Ward of Rochester. The collection is the gift of the Hon. Elbert E. Fairman, LL. D., of Warsaw, N. Y.

1048. *The English sparrow*. By Ralph S. Tarr. *Ibid.*, Nov. 6, 1885, 416.—On the dates of its introduction, increase, food, and the policy to be pursued toward the bird.

1049. *A search for the gigantic bird [Apyornis] of Madagascar*. Anon. *Ibid.*, p. 418.—It "was probably exterminated very soon after the advent of man in the region it inhabited."

1050. *The English sparrow*. By A. L. Child, M.D. *Ibid.*, Nov. 27, 1885, 478.—Chiefly on its spread in the West. "The condemned sparrow seems to be entire master of the position."

1051. *The English sparrow*. By Jos. F. James and G. C. Henning. *Ibid.*, Dec. 4, 1885, pp. 497, 498.—Chiefly on its habits—its driving away native birds, and depredations upon small fruits and pears.

1052. *The English sparrow*. By Ralph S. Tarr. *Ibid.*, Dec. 11, 1885, p. 520.—Advises offering a small bounty for their nests and eggs, etc.

1053. *The English sparrow*. By P. J. Farnsworth and John Nichols. *Ibid.*, Dec. 18, 1885, p. 541.—In defence of the bird.

1054. *The English sparrow*. By Ralph S. Tarr. *Ibid.*, Dec. 25, 1885, p. 563.—Gives an extract from the London 'Academy,' showing how "the bird is viewed in England." The quotation strongly denounces the Sparrow.

1055. *Report of the Ornithological Branch [of the Ottawa Field Naturalists' Club]*. By W. L. Scott and George R. White. *Trans. Ottawa Field Nat. Club*, Vol. II, No. 2, 1885, pp. 272-280.—Nine species are added to the list of Ottawa Birds; there are notes on 12 other species, "rare in this locality or recently added to our local list," followed by a list giving dates of arrival birds observed in the spring of 1884.

1056. *Ravages of Rice-Birds*. By Hon. Warner Miller. *Congressional Record*, 49th Congress, June 11, 1886, p. 5747.—A loss of \$6.87 per acre caused by the Rice Birds to the rice crop, and the total annual loss to one plantation is estimated at \$8,250.

1057. *The English Sparrow in the United States*. By Hon. Warner Miller. *Ibid.*, pp. 5747, 5748.—"The indications are that if the English Sparrow is allowed to go unchecked it will not be long before the annual loss of grain and fruit products due to his ravages will be in amount sufficient to pay the interest on our national debt, if not the debt itself. Few persons have any conception of the scourge he has proved wherever he has been naturalized in foreign lands, and he threatens to become a greater pest to the American farmer and horticulturist than the grasshopper, caterpillar, and Colorado beetle."

1058. *Preliminary List of the Birds known to breed on Staten Island*. By Arthur Hollick. *Proc. Nat. Sci. Ass. Staten Island*. Extra No. 4, Dec., 1885.—A nominal list of 67 species, published as a one-page leaflet.

1059. *Diurnal Rapacious Birds.* (With special reference to Chester County, Pa.) By B. Harry Warren, M.D. *Agriculture of Pennsylvania*, 1883 (1884), pp. 96-112.—A very important paper on the food of various species of Hawks, with report of numerous examinations of the contents of stomachs.

1060. *Blackbirds' Food. Facts from the Diary of a Field-Working Naturalist, Showing the Piscivorous Habit of two Species of the Genus Quiscalus.* By B. H. Warren, M.D., Ornithologist of the Board [of Agriculture]. *Ibid.*, Rep. for 1885 (1886), pp. 157-159.—Statistics of examinations of stomachs of numerous specimens of *Quiscalus purpureus* and *Q. major*.

1061. *Birds' Food.* By B. H. Warren, M.D. *Ibid.*, pp. 150-156.—On the food of the *Turdus migratorius* and *Mimus carolinensis*.

1062. *The Common Crow Blackbird—Purple Grackle. Quiscalus purpureus (Bartr.).* By B. Harry Warren, M.D. *Ibid.*, 1883 (1884), pp. 214-217.—On its habits and food.

1063. *Die Purpurschwalbe (Progne subis Baird, Purple Martin).* By H. Nehrling. *Der Zoologische Garten*, Jahrg. XXVI, No. 1, 1885, pp. 22-27.—History of the species.

1064. *Der Grünsänger (Dendroica virens Baird, Black-throated Green Warbler).* By H. Nehrling. *Ibid.*, No. 3, pp. 82-85.

1065. *Der Heckensänger, Dendroica pensylvanica Baird, Chestnut-sided Warbler.* By H. Nehrling. *Ibid.*, No. 6, pp. 185, 186.

1066. *Der Wurmsänger, Helminthophaga vermivorus Bonap., Worm-eating Warbler.* By H. Nehrling. *Ibid.*, No. 7, pp. 214-215.

1067. *Der Blauflügelige Buschsänger, Helminthophaga pinus Baird, Blue-winged Yellow Warbler.* By H. Nehrling. *Ibid.*, No. 12, pp. 364-366.

1068. *Ein kalifornischer Charaktervogel.* Von H. Nehrling. *Ibid.*, Jahrg. XXVII, No. 3, 1886, pp. 87-90.—An account of the Phainopepla (*P. nitens*).

The present index to minor papers and notes on North American birds was begun in January, 1880, in the first number of the fifth volume of the 'Bulletin of the Nuttall Ornithological Club,' with the heading 'Minor Ornithological Papers,' with the purpose of giving short notices or abstracts of the more important papers and notes relating to American birds, appearing in publications not usually conveniently accessible to working ornithologists, in continuation of Dr. Coues's 'List of Faunal Publications relating to North American Ornithology,' published in his 'Birds of the Colorado Valley' in 1878. The scope of the index was at first limited to notes or papers of special value, particularly those having the character of local lists, or bearing upon the migration or distribution of species, excluding, however, such as were anonymous, or pseudonymous. Later the scope was enlarged to include everything worth citing relating to North American birds, wherever published, unless appearing in journals strictly devoted to ornithology. The compiler is aware that the record must be far from complete, particularly as regards newspapers, but it is believed

