

Mr. Jacobs's brochure contains three half-tone plates, illustrating the houses with their colonies of breeding birds, and the general narrative of the founding and increase of the colony is followed by sections entitled: 'Return from the South,' giving the dates of spring arrivals from 1891 to 1902; 'Nest Building, Deposition and Number of Eggs, and Incubation,' and relates the manner of nest building, the number of eggs to the set, and the length of the period of incubation. The record shows that a total of 1150 eggs were laid during the seven years, and that 850 young reached maturity. 'The Growing Young and the Parents' Care' is the title of a most interesting and instructive chapter, and is followed by: 'Something about Their Food'; 'Their Enemies, Causes of Death, etc.'; 'Off to the South'; 'A Chapter on a Cabinet Series of Their Eggs'; and 'On the Construction of Houses.' The author says: "I have robbed my pets but I do not wear their feathers in my hat!" During the seven years of his fostering care he confesses to having taken eleven sets of eggs for study, of which one had been deserted, and the others were soon followed by the deposition of second sets. The sets vary in number from 3 to 7 eggs to the set, and the size of the eggs is largest in the smallest set, but the smallest average size does not always coincide with the largest number of eggs to the set.

In short, Mr. Jacobs's history of his Martin colony is a valuable contribution to ornithology, as regards both the economic and natural history phases of the subject.—J. A. A.

Pycraft on 'The Significance of the Condition of Young Birds at Birth.'¹—Mr. Pycraft believes that too much stress has been laid by systematists on the widely diverse conditions the young of different groups of birds present at birth, as regards their helplessness or otherwise, and whether clothed or more or less naked; and further claims that the significance of these conditions has been misunderstood. "The real explanation of the matter," he says, "seems rather to turn upon a question of expediency, designed, so to speak, to reduce infant mortality." He claims to present facts "strong enough, on the one hand, to refute the older views, and on the other, to justify the theory, firstly, that birds were originally arboreal and their young nidifugous; secondly, that nidicolous habits and helplessness of young birds are specialized adaptations to an arboreal or gregarious mode of life; and, thirdly, that the young of gallinaceous birds form a link in the chain of evolution of nidifugous habits. The free finger tip and arrested development of the outer quill-feathers point to a prior arboreal habit, whilst the accelerated development of the inner quill-feathers indicates an adaptation to enable the young to escape

¹The Significance of the Condition of the Young at Birth. By W. P. Pycraft, A. L. S., F. Z. S. Popular Science Monthly, Vol. LXII, Dec. 1902, pp. 108-116.

from the enemies surrounding a terrestrial nursery. The third and last stage is represented by the protective coloration, a device which has been almost universally adopted by nidifugous birds, owing to its greater effectiveness."

The Hoatzin is taken as the main clew to the problem. In the structure of its wing "we have a revelation of a phase of bird-life hitherto unsuspected; inasmuch as its peculiar developmental stages, each with its period of functional activity, enable us to interpret the hitherto meaningless and puzzling characters seen in the wing of the fowl and turkey, and their allies. These constitute well-nigh invincible proofs of an earlier and universal arboreal existence, extending back to the time of the earliest known bird archæopteryx. Certainly the skeleton, especially the wing, lends the strongest support to this view. This carries us further back still, and suggests the conclusion that the reptile stock from which the aves are descended was probably also arboreal."

He explains that infant mortality could be reduced (1) by depositing the eggs on the ground, or (2) curtailing the activity of the young, the latter being produced by reducing the amount of food-yolk and inducing an earlier hatching period. But space will not permit us to give a synopsis of his many ingenious suggestions.—J. A. A.

Strong on a Case of Abnormal Plumage.¹—The case here described is that of an abnormal condition in the juvenal plumage of a hybrid between the Common Ring Dove (*Turtur risorius*) and the Red Ring Dove (*T. humilis*) of China, in which the remiges, rectrices and contour feathers were crossed by a subterminal band of paler color, in which the barbules were imperfectly developed. "It is significant," says the author, "that these abnormalities occur at uniform distances from the distal ends of the feathers throughout the whole plumage, and it seems reasonable to conclude that the conditions responsible for the abnormalities were constitutional, and affected the germs of all the feathers simultaneously, though in three different degrees of intensity." The abnormalities are ascribed to malnutrition at the time the juvenal plumage was developing. The character of the malformation is described in detail and illustrated with figures.—J. A. A.

Trowbridge on 'The Relation of Wind to Bird Migration.'²—In 'The Auk' for July, 1895 (XII, pp. 259-270), Mr. Trowbridge published an interesting paper on 'Hawk Flights in Connecticut.' The present paper contains further observations on the migrations of hawks in southern Con-

¹ A Case of Abnormal Plumage. By R. M. Strong. Biolog. Bull., Vol. III, No. 6, pp. 289-294, with 6 text figures. Nov. 1902.

² The Relation of Wind to Bird Migration. By C. C. Trowbridge. Amer. Nat., Vol. XXXVI, 1902, pp. 735-753, with 3 maps.