

omy. It is rather confirmatory, as would be expected, of conclusions based on other structural features. He ventures, however, to present diagrams of the "hypothetical relationships," respectively, of the genera of Quails and Grouse, based wholly on a study of their pterylography. He expresses regret "that the amount of labor involved in this investigation has not been productive of more considerable results"; yet hardly more could have been expected than the contribution of facts here presented. It is not likely that any one set of characters, however, fully known, will ever serve as a basis for a satisfactory phylogeny.—J. A. A.

Weed on the Winter Food of the Chickadee.¹—The scientific study of the food habits of our birds, now carried on at various Agricultural Experiment Stations and elsewhere, is placing in strong light the indebtedness of man to insectivorous birds. Mr. Weed's excellent paper on the winter food of the Chickadee shows that at this season the Chickadee's food consists very largely of the eggs of insects injurious to vegetation. "This destruction," says Dr. Weed, "of the myriad eggs of plant-lice which infest fruit, shade, and forest trees is probably the most important service the Chickadee renders during the winter residence." It also destroys the eggs of the tent caterpillar and the fall canker worm, as well as those of other noxious insects. Statistics are given of the results of stomach examinations, and a detailed account of how the investigations were conducted. The conclusion reached is that the Chickadee is "one of the best of the farmer's friends, working throughout the winter to subdue insect enemies of the farm, orchard, and garden."—J. A. A.

Weed on the Feeding Habits of the Chipping Sparrow.²—This is a detailed account of the number of times a pair of Chipping Sparrows fed their brood of young during "one long day in June," just before the young left the nest. It was found that the parents made nearly two hundred visits to the nest, carrying food to their young, during a single day. The precise nature of the food was of course not determined, but the most abundant elements were seen to be soft-bodied caterpillars, crickets, and crane-flies, while doubtless a great variety of other insects was taken. As this bird is an abundant, and at all times a harmless species, and commonly raises two broods each season, its utility as an insect destroyer is abundantly evident.—J. A. A.

¹ The Winter food of the Chickadee. By Clarence M. Weed. Bull 54, New Hampshire College Agriculture Experiment Station, Durham, N. H., pp. 85-98. June 1898.

² The Feeding Habits of the Chipping Sparrow. By Clarence M. Weed. Bull. 55, New Hampshire College Agriculture Experiment Station, Durham, N. H., pp. 101-110. July, 1898.