

Dendroica auduboni. AUDUBON'S WARBLER.—Four specimens. Three from Little Pumpkin Creek, April 23, 26 and 27, 1900, and one from Ft. Keough, May 25, 1902.

Oporornis tolmiei. MACGILLIVRAY'S WARBLER.—One male, Ft. Keough, May 25, 1902.

Wilsonia pusilla pileolata. PILEOLATED WARBLER.—One specimen in Dr. Bishop's collection, September 22, 1900.

Sitta canadensis. RED-BREASTED NUTHATCH.—Seven specimens. Little Pumpkin and Otter Creeks, April 25–27, 1900, and one from Ft. Keough, May 18, 1902. I observed several of these birds in the Long Pine Hills, November 16, 1909.

Regulus satrapa (subspecies?). GOLDEN-CROWNED KINGLET.—I observed two of these birds in the Long Pine Hills, November 29, 1909.

Regulus calendula calendula. RUBY-CROWNED KINGLET.—One male, Ft. Keough, September 22, 1900.—ARETAS A. SAUNDERS, *West Haven, Conn.*

The Rose Beetle Poisonous to Young Birds.—In 1914, Mr. Ernest Napier, President of the New Jersey Fish and Game Commission reported to the Biological Survey the loss of hundreds of pheasant chicks and of numerous young ducks and chickens from eating rose beetles (*Macrodactylus subspinosus*). Four young Ring-necked Pheasants were examined and rose beetles found to compose 48, 30, 50 and 17 per cent respectively of their food. The largest number of rose beetles in any one was 12. The crops of these birds were only from one-fourth to three-fourths full and thoroughly ground up remains of the beetles were present in each gizzard, showing that the insects were being digested in regular course. There being no evidence of crop binding, to which the trouble had been attributed,¹ and a positive diagnosis of white diarrhoea being obtained, it was concluded that the rose beetles were not the direct cause of the mortality.

It is of great interest, therefore, that the rose beetle has recently been discovered to "contain a neuro-toxin that has an effect upon the heart action of both chickens and rabbits and is excessively dangerous as a food for chickens."² In experimental feeding of rose beetles to young chicks death resulted in from 9 to 24 hours. Similar results were obtained with an extract of rose chafers. Resistance to the poison increased rapidly with the age of the chicks and none over ten weeks old was killed.

Besides the obvious economic aspect of this discovery, and the indicated necessity of keeping young domesticated birds away from rose-beetles, the facts have an interesting bearing on the theory of "protected" insects and their warning colors. This, a poisonous insect according to the theory

¹ Prof. F. E. L. Beal informs the writer that it is sometimes necessary to open the crops of young turkeys because of clogging up by rose bugs.

² Lamson, George H., Jr.—The poisonous effects of the rose chafer upon chickens. *Journ. Ec. Ent.*, 8, No. 6, Dec., 1915, p. 548; *Science*, N. S., 43, Jan. 28, 1916, p. 139.

should have bright warning colors, yet is of a uniform and inconspicuous brownish yellow. According to hypothesis, furthermore, birds are supposed to learn about disagreeable insects when young and thus be trained when adult to ignore them. In this case, however, experiment is usually followed by death, so that experience is not conserved. What is more, the insect is not dangerous to adult birds, so that, adopting this style of argument for the moment, early bad experience probably would be overcome by later satisfactory trials.

We do not know whether eating rose chafers has a bad effect upon the young of wild birds, but we do know that the adults of a number of species feed upon these insects. So far, rose-beetles have been found in stomachs of 12 wild species. The Kingbird seems especially fond of them, from 12 to 40 rose-chafers being found in each of several collected stomachs.

The case is analogous to that of numerous birds feeding extensively upon the fruits of poison sumacs. A known poisonous principle, which at first thought we should be inclined to consider a preventive against eating by wild animals, is proved by the observed facts to have no such effect. Other analogies are by no means rare, and it would seem that if carefully pondered, they would serve to check the enthusiasm with which anthropomorphic explanations of animal behavior are advanced.—W. L. McATEE, *Washington, D. C.*

A Fossil Feather from Taubaté.—Fossil birds are rare enough when we come to consider how very few of them have fallen into the hands of science, as compared with the great quantity of material we have representing the fossil forms of other Vertebrata; and, as to fossil feathers, they are many times rarer than those of the birds themselves. Without inviting special attention to the literature on this subject — for numerous authors have contributed to it, myself among the number — I would say that the specimen here to be described was kindly sent me for that purpose by Herr Director Dr. von Ihering, of the Museu Paulista, São Paulo, Brazil; it came by registered mail, the letter of transmittal being dated January 8, 1915.

The locality where this specimen was found has yielded many fine fish fossils, which have been described by Dr. A. S. Woodward, of the British Museum, while the locality itself has been touched upon by Dr. von Ihering himself in an article entitled: 'Observações sobre os peixes fósseis de Taubaté,' which appeared in volume iii (p. 71) of the 'Revista do Museu Paulista' for the year 1898. As the locality is fully described in that contribution, it will not be necessary to further refer to it in this note.

The matrix is of dark chocolate brown, with a leathery roughness on the side carrying the fossil; on the other side it is somewhat lighter in color, and exhibits evidences of cleavage horizontally. In size the slab measures about 14 cm. by 7.5 cm., and it has an average thickness of 3 mm. It bears evidence of having been cut out of its place where collected with some sharp instrument — perhaps a strong knife. As noted above, the specimen



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