spite of arctic sleeping bag and blankets and overcoats so numerous that one could hardly lift the weight in breathing. On the trips in which a second night was passed at this height, more sleep was secured, indicating that the body was getting adjusted to the altitude. The headache disappeared and the appetite revived on the return trip. On the first of these trips, records were made of the pulse and respiration, as accurately as could be made by a person upon himself. They are as follows: Aug. 18, 10 p. m., at observatory on retiring, pulse 80, respiration 16; August 19, 6.00 a. m., on rising, pulse 80, respiration 16; 3.30 p. m. at tambo de los huesos, elevation 13,300 feet, pulse 96, respiration 12; Aug. 20, 6.25 a. m., at hut 15,400 feet, on rising, pulse 90, respiration 12; 12.30 p. m., at summit, 19,200 feet, pulse 86, respiration 11; Aug. 21, 10 a. m. at hut, 15,400 feet, pulse 86, respiration 11. The rather small increase in the pulse and the decrease in the respiration are noteworthy. While I made no records on other trips, I noticed frequently that my tendency was to breathe more slowly than usual, except when moving about.

WINSLOW UPTON.

PROVIDENCE, R. I.,
December 7, 1901.

SCIENTIFIC ORNITHOLOGY.

THE following remarkable misuse of terminology occurs in Mr. Robert Ridgway's 'Birds of North and Middle America,' Part I., The Finches, just from the press of the Government Printing Office. He says in his Introduction: "There are two essentially different kinds of ornithology: *systematic*, or *scientific*, and *popular*. The former deals with the structure and classification of birds, their synonymies and technical descriptions. The latter treats of their habits, songs, nesting, and other facts pertaining to their life-histories." And he continues: "Popular ornithology is the more entertaining with its savor of the wildwood, green fields, the riverside and seashore, bird songs and the many fascinating things connected with out-door nature. But systematic ornithology, being a component part of biology—the science of life—is the more instructive and therefore the more important." And are, indeed, life-habits and life-history not biology, not, if scientifically studied, science of life, not more important than the mere forms which result from this part of bird biology? Could there be found a worse misconception of where science and popular writing differentiate!

X.

SHORTER ARTICLES.

THE RESULTS ATTENDING THE EXPERIMENTS IN LOBSTER CULTURE MADE BY THE UNITED STATES COMMISSION OF FISH AND FISHERIES.

IN April, 1900, the United States Commission of Fish and Fisheries appropriated several thousand dollars to be used in devising, if possible, a practical method of artificial lobster culture, and the undersigned was appointed to take immediate charge of the experiments.

The breeding period of the lobster, continuing as it does only through a few weeks of the late spring and early summer, is so brief that extended experiments have been impossible, but the experiments that have thus far been made (during the spring of 1900 and of 1901) would indicate that very large numbers of lobsters may be hatched and retained in captivity until they have reached an age when they are well able to take care of themselves. Indeed, it would seem that the enormous mortality among lobster young (which results either from boiling females 'in berry,' or stripping the eggs from the female as the lobsters are taken from the traps) may not only be lessened, but that the young enclosed in these eggs may, with very little expense, be hatched in the more important fishing ports and hamlets and protected until they have passed through the critical stages.

It seems advisable to defer the rendering of the final report until the Commission has profited by the experiments of another season. Inasmuch, however, as the problem is of considerable economic importance, it would seem desirable to make some report at the present time, although only a report of progress.

In the spring of 1900 a number of experiment stations were established along the New England coast, namely, at Orrs Island, Freeport, Annisquam, Gloucester, Woods Holl, Naushon and Wickford. Experiments had been made previously at Woods Holl, but without encour-