plots in the same formation 120 species were found of which the five commonest form 30 per cent., and 91 form each less than 1 per cent. Quite as striking as the wealth in species and the poverty in individuals is the variation between the different plots in the same formation.

Note has been taken of the lianes, epiphytes and herbaceous vegetation, and many valuable observations made on the foliage, bark, latex, buttresses and cauliflory of the trees. It is unfortunate that more attention could not have been given to the herbaceous vegetation.

The paper as a whole, with its abundant illustrations, gives a vivid picture of the vegetation of a region not before well known to us. Manifest importance attaches to the carrying into the tropics of the detailed and comprehensive methods of studying vegetation which have been in use in the temperate regions. The fact that our methods and our points of view are both the products of the study of temperate vegetation must compel care in the application of these in the tropics. While the method of the study of plots gives interesting results as to the wealth and composition of a tropical forest when first applied in a particular region, yet it does not give facts of the same order as those ascertained by the study of plots in the temperate zone, as may be seen by a comparison of the lists for plots in the same formations in the Lamao reserve. The reviewer doubts if the term 'climax forest' is one that would have come into existence if the first students of physiological plant-geography had resided and worked in the tropics. The term is certainly an extremely elastic one as used by Dr. Whitford.

It is greatly to be hoped that we may have in the near future further papers of this nature from members of the botanical and forestry staffs of the Philippines.

Forrest Shreve.
The Woman's College, Baltimore.

SCIENTIFIC JOURNALS AND ARTICLES.

Bird-Lore for September-October contains a well-illustrated article on 'The Home Life of the Red-tailed Hawk,' by Robert W. Hegner; an account of 'The Nesting of the Arctic Three-toed Woodpecker in the Adirondacks,' by Lawrence Achilles; an article on 'The Rose-breasted Grosbeak,' by Frederick L. Holtz, and one on 'The Habits of the Black Vulture,' by A. A. Saunders. W. W. Cooke contributes the eighteenth paper on 'The Migration of Warblers.' In notes and news are the records of two plume sales in London, footing up over 35,000 birds, including 19,000 birds-of-paradise. The Audubon leaflet is devoted to the blue jay.

The Zoological Society Bulletin for October has an article, with a good illustration, on the African pigmy Ota Benga, and there are good papers on 'The Collection of Reptiles,' 'How Seals are Trained,' 'The White Peacock' and 'How Birds get Their Food.' The capture of two tarpon in New York Bay is recorded and there is a description of a new sea-horse from Bermuda to which the name *Hippocampus kincaidi* is given. Judging from the figure, it should belong in another genus. There is probably a slip of the pen in the statement under the cut of 'One of the Largest of Our Tortoises' that 'The growth of this specimen has been so great as to oppose the theory of the great age which these reptiles are supposed to attain.' What is doubtless meant is that great size does not necessarily mean great age, for these tortoises have been known to live over one hundred years.

The Museum News of the Brooklyn Institute Museums for October begins its second volume with a brief summary of the summer's work. In the section devoted to the Children's Museum is a good account of Tadourac and the Saguenay River, in which the occurrence of the killer, *Orca,* is noted. The museum has a living specimen of *Hyla andersoni.*

SOCIETIES AND ACADEMIES.

THE ST. LOUIS CHEMICAL SOCIETY.

The first meeting after the summer recess of the St. Louis Chemical Society, was held on Monday, October 8. A report 'On the National Pure Food and Drug Law, and On the Recent Hearing by the Official Commis-

sion in New York City,' by Dr. C. E. Caspari, attracted a very full attendance of members and invited guests. Dr. Caspari had attended the sessions of the commission as a representative of two firms of New York City, hence his communication had all the interest of personal knowledge. A rather lively and prolonged discussion of the subject from the chemical and pharmaceutical point of view manifested the interest of the members in subject matter of the law and the law itself.

C. J. BORGMEYER,
Corresponding Secretary.

THE ELISHA MITCHELL SCIENTIFIC SOCIETY OF THE UNIVERSITY OF NORTH CAROLINA.

THE 167th meeting of the Elisha Mitchell Scientific Society was held in the main lecture hall of the new Chemical Laboratory on Tuesday evening, October 9, at 7:30 o'clock. The following papers were presented:

PROFESSOR COLLIER COBB: 'Geology and Forestry in the Ducktown Region.'

MR. HAMPDEN HILL: 'Deforesting of the Ducktown Region by Sulphur Fumes.'

PROFESSOR CHAS. H. HEBTY: 'The Electric Smelting of Iron Ores.'

DISCUSSION AND CORRESPONDENCE.

'AN IGNORED THEORY OF THE ICE AGE.'

IN SCIENCE (October 5, page 439) there is a communication from Dr. J. M. Schaeberle, under the above title, of which the following is the opening paragraph:

> Looking over the recently issued work on 'Geology,' by Professors Chamberlin and Salisbury, I was surprised and disappointed to learn that in this voluminous publication of nearly two thousand pages, many of which are devoted to considerations of causes leading up to the ice age, the name of Dr. Marsden Manson is not to be found.

We, in our turn, are surprised that before going into print with this statement, Dr. Schaeberle did not consult the index of the work in question, where, in its appropriate place, he might have found:

> Manson, M., cited, iii, 445.

Referring to the page named, he would have found a section devoted to the cloud hypothesis and the wind hypothesis. Under the cloud hypothesis the following references are given:

> Manson, *Am. Geol.*, Vol. XIV., 1894, pp. 192–194; Vol. XXIII., 1899, pp. 44–57; and Vol. XXIV., 1899, pp. 93–120, 157–180, 205–209.

The discussion was, to be sure, generic rather than specific, and was directed toward the evolution of hypotheses concordant with the present state of discovery and inquiry, rather than retrospective. It was no part of the policy of the authors in preparing the work to bring up the specific views of an individual writer only to throw them down, unless wide acceptance required their consideration. Especially did the authors endeavor to avoid the adverse criticism of individual views when the ground had been adequately covered already by generic treatment. They, therefore, saw no sufficient reason for reciting and criticizing the special view of Dr. Manson that the earth, from the Archean to the Middle Tertiary, was shrouded in a mantle of clouds so deep, dense, universal and persistent that the sun had no effective differential influence on the temperature at the earth's surface, which was maintained by internal heat, and his conclusion that the Pleistocene glaciation was an incident of the transition from this cloud-shrouded era to the present one and was hence the only true glacial period. The authors had recited with care the evidence that there were other and much earlier glaciations whose extent and character raised even more exacting climatological questions than the Pleistocene glaciation. They had cited, in their appropriate places, the paleobotanical evidences of open and varied skies and diversities of atmosphere, specifically noting that the upper sides of leaves of different genera even in Paleozoic times were provided with palisade cells as a protection against too great intensity of sunlight. They had discussed at length and repeatedly, in the proper places, the great evaporation deposits and their associates, together with the related evidences, both physical and organic, of wide-spread and recurrent aridity, with its obvious implication of open and diversified skies and of effective solar action. It had been specifically pointed out