

being least in those with an abundance of coarse submerged water plants, and greatest in those virtually free from such vegetation. The reasons for this difference seem not well established in this paper, but they are possibly connected with differences of light and heat already referred to. The most productive body of water examined was a large permanent pond, with neither inlet nor outlet at a low stage of water, and with bottom and shores of bare mud.

The conditions which favor a large annual production of this minute aquatic life also seem to favor a large catch of fish, but no direct connection of cause and effect is here made out. The plankton is, however, an indispensable element in the food of fishes, the young of nearly every species in our waters being absolutely dependent upon it at some period of their lives, and adult fishes of several species making large use of it during the season of its greatest abundance.

No study of the minute life of a river system has heretofore been made of equal extent, thoroughness, and scientific character with that reported in this paper, and a knowledge of the facts contained in it is indispensable to an understanding of some of the problems of a scientific fish-culture in fresh-water situations.

The work here reported is a part of that of the biological survey of Illinois. It was planned, established, and equipped by Dr. S. A. Forbes, director of the State Laboratory, and was done under the immediate superintendence of Professor Frank Smith, of the University of Illinois, during the first fifteen months, beginning with April, 1894, and of Dr. C. A. Kofoid, superintendent of the station, the writer of this report, during the remainder of the five-year period.

*THE MISSOURI BOTANICAL GARDEN
REPORT.*

ADVANCE galleries of the administration report of this well-known institution, for which we are indebted to its director, show the customary progress. In 1904 the number of species and varieties of plants cultivated was increased from 11,357 to 14,207, an addition of

25 per cent. The herbarium was enlarged from 465,205 to 489,310 specimens, an increase of a little over 5 per cent., and the total of books and pamphlets in the library was raised from 42,262 to 45,892, or something over 8 per cent.

The world's fair recently held in St. Louis raised the visitors to the garden to over three times the customary number, a total of 316,747, or about 2 per cent. of the entire paid admissions to the exposition. That these visitors were of an unusually intelligent and interested class is noted from observation and inferred from their purchase of a little handbook of the garden, the sales of which amounted to 1.51 per cent. of the number of visitors in contrast with an earlier average of .246 of 1 per cent.

The report also contains information as to the school of botany, the gardening course, the research work at the garden and the testamentary flower sermon, banquets, and flower show, all of which latter were influenced by the holding of the St. Louis exposition, at which the garden met with recognition in the form of two grand prizes and several minor awards.

The financial report of the trustees shows that street improvements, sewers, property expenses and the like have wiped out their savings of the past fifteen years, on which needed buildings and enlargements have been planned by the director, and it is evident that unless unexpected aid is rendered the garden by some public-spirited citizen these improvements must necessarily be deferred for at least ten years, although the maintenance of the establishment on its present scale is not in doubt, and there is assurance in its unencumbered endowment of some \$3,000,000 that gradually it will enlarge to an importance and usefulness equaling the most sanguine expectations of its friends.

THE NATIONAL GEOGRAPHIC SOCIETY.

PROFESSOR WILLIS L. MOORE, chief of the U. S. Weather Bureau, was elected president of the National Geographic Society, at the last meeting of the board of managers, at Washington. Professor Moore has been ac-