

MORE ABOUT NEW HALL OF EARTH HISTORY . . .

EXTINCT PLANTS AND THEIR LIVING DESCENDANTS

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LIFE ON THIS PLANET has a long and intricate history. Although its beginning is shrouded in mystery, we know enough about living plants to think of their ancestors as primitive organisms capable of performing some of the most important functions generally regarded as evidence of life. These primitive organisms were certainly aquatic, microscopic in

groups shown in this part of the exhibit are incapable of making their own organic food materials and depend on other organisms for such, either by living at the expense of their hosts or by breaking down dead plant and animal bodies. These groups are represented by the "fungi" and by some bacteria. Although many of these organisms are aquatic, the majority lives on land.

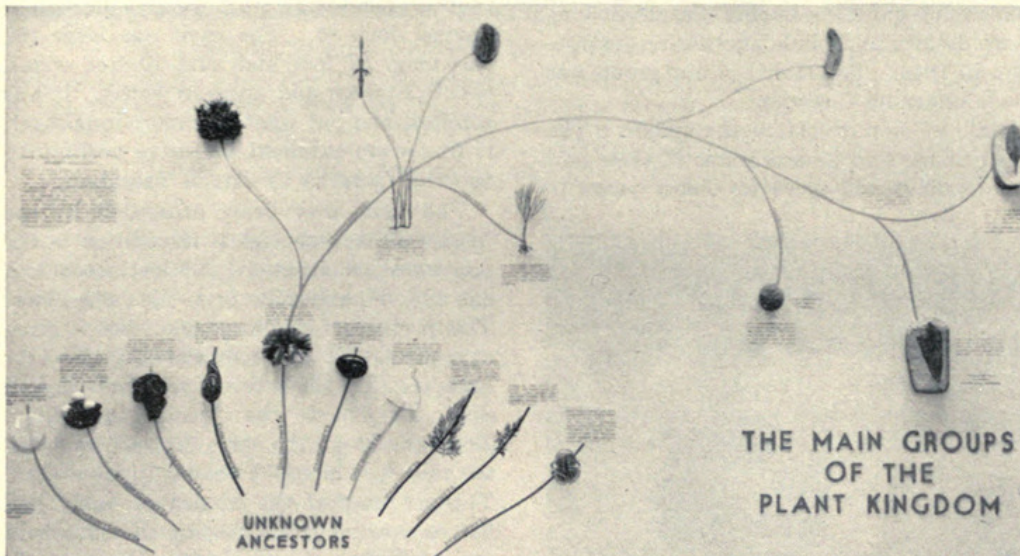
One of the groups of algae, the green algae, is believed to have given rise to the vascular

associated in the same bed. As these parts become known and are given names, the whole plant can ultimately be pieced together. Such a reconstruction aims to show the general habit and mode of growth of the original plant. Comparatively few fossil plants are well enough known to permit their reconstruction as a whole.

TRACING THE PAST

Comparison of the internal structure of fossil plants with that of their closest living relatives and analysis of the rocks containing these fossils permit conclusions regarding past climates and conditions of fossilization. A particularly instructive example of this kind is provided by coal. The principal kinds of coal and the processes effecting its formation are illustrated in the small cases at the end of the second alcove. Actually coal represents the geological record of swamp vegetation growing in a moist, non-seasonal, warm, but not tropical climate.

But not all fossil plants known come from coals. Many are found in other deposits in various states of preservation. Some are so well preserved that they can hardly be told apart from their living descendants. Others, no longer present in our floras, are known only from one or several specimens. Still others are known from many parts of the world thus providing the geologist with valuable means for comparing similar strata in widely separated localities.



SYNOPTIC CLASSIFICATION OF THE PLANT KINGDOM

The Plant Kingdom, with several hundred thousand species, is divided into a number of main groups. The possible relationships of these groups are shown by connecting lines. The models are made natural size or enlarged for purposes of exhibition. Actual specimens are shown as far as possible.

size, able to make their own organic food materials, and capable of reproduction. Being soft-bodied, few of these, if any, left discernible geological traces. Yet their descendants, empowered with greater structural complexity and functional diversity, contributed materially to rock building and the formation of soil, so necessary for the growth of land plants.

The geological story of land plants, as far as it is known today, begins late in the Silurian period. The main phases of this development are shown in the eight new cases situated on the south side of the reorganized Frederick J. V. Skiff Hall (Hall 37) near Ernest R. Graham Hall (Hall 38). The first case near that door to the hall reopening October 1 contains a visual scheme of classification of the plant kingdom. Each main group is represented by a characteristic member, either living or fossil, and the relationships among the various groups are indicated by connecting lines. Several of the main groups shown in the lower part of the scheme are commonly called "algae." Their members are mainly aquatic, capable of making their own organic food materials and characteristically colored. The other

plants. Since the beginning of the Devonian period land plants have become increasingly more important, while growing in stature from small grass-like plants to the large scale-trees of the Pennsylvanian period and the modern giants, such as the American redwood and big tree and the Australian eucalypts. This general increase in size and complexity of structure is roughly reflected in the geological sequence of appearance of the great groups of vascular plants and their present day representation in numbers of species and individuals. The small exhibit case at the end of the first alcove illustrates this general advance in a diagrammatic manner. The other large cases depict, group by group, characteristic members as found in fossil state, often accompanied by reconstructions made up of many isolated parts discovered at various times by many collectors in different localities.

Unlike their living descendants, fossil land plants are always found in parts, either as stumps with some large roots attached, stems, branches, leaves, or organs of reproduction. Rarely are some of these attached one to another. At best some may be found

NATURE PHOTO CONTEST
ENTRIES OPEN

The Nature Camera Club of Chicago and Chicago Natural History Museum are ready to receive entries for the Seventh Chicago International Exhibition of Nature Photography to be held at the Museum February 1 to 28 inclusive. All persons interested in nature photography—both amateur and professional photographers—are invited to send their best nature pictures for entry in this contest. Deadline for entries is January 14.

Silver medals and ribbons will be awarded in the various print and slide classifications. Entry forms and a complete resumé of conditions of the contest may be obtained from the Museum. Entries should be sent to the Museum.

Illinois Audubon Lectures
Coming to Museum

The Illinois Audubon Society will again present its autumn series of free lectures in the James Simpson Theatre of this institution. The first will be presented on Sunday afternoon, November 18, at 2:30, when Fran W. Hall will give a lecture entitled "The Four Corners," accompanied by motion pictures in color. The general public is invited, and Museum members are entitled to seats in the reserved section of the theatre.



Just, Theodor. 1951. "Extinct Plants and Their Living Descendants." *Bulletin* 22(10), 6–6.

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