

## Vanished Sea

Back in the days when the massive continental glaciers were slowly and sullenly melting in their northward retreat, a huge fresh-water sea, an extension of what are now the Great Lakes, existed in northwestern Wisconsin. Geologists have found its old shores, left high and dry, and they have found also little scraps of water—ponds and small lakes—that are its relics.

Prof. N. C. Fassett of the University of Wisconsin told how botany has come to the aid of its sister science in checking up on the outlines of the ancient lake. On the margins of the relic ponds and lakelets, and even on the now waterless beach ridges, he has found numerous water-loving plant species that are characteristic of the Atlantic seaboard and of the dunes country around the southern end of Lake Michigan, but do not "belong" in the Wisconsin flora at all. They are plainly relics of the zones of vegetation that once fringed the margin of the vanished great lake, left as strangers in a strange land when the body of water primarily responsible for their immigration so far inland dried up or was drained away.

*Botany*

*Science News-Letter, January 4, 1930*

## Fight Pests

The activities of a liaison organization between the various institutions and individual scientists interested in fighting insect pests and plant diseases were described by Paul Moore of the Crop Protection Institute.

"To many it may seem strange to be talking of protecting crops, when the psychology of the hour is that there is a surplus and that those who have produced it are in dire straits financially," Mr. Moore said. "Yet if we ignore the fact that a billion dollars a year go to feeding bugs and relax in any degree the efforts to fight plague and pest, not only would farmers be the sufferers but the nation at large would face a real peril."

*Entomology*

*Science News-Letter, January 4, 1930*

## Prairies

"Prairies" are not the wide, flat, lonesome, windswept plains that figure in Wild West song and story. The right name for such plains is just plain "plains".

The frequent misuse of the term "prairie" was corrected by Dr. P. A. Rydberg of the New York Botanical Garden, who has made a lifetime

study of the plants of the West, and knows both prairies and plains.

The real prairies, he said, are the regions of gently rolling hills of the central Mississippi valley, of which Iowa and eastern Nebraska are good examples. These prairies are blessed with an annual rainfall of 30 inches or more, and originally supported a vegetation of long grasses. They are the best corn lands. The flat plains country to the west of the prairie region has a rainfall of 20 inches or less. Its original vegetation, which has survived far more extensively than that of the intensively cultivated prairies, was a response to the lower rainfall and other less favorable conditions, and had short and more scattered grasses as its principal constituents.

*Physical Geography*

*Science News-Letter, January 4, 1930*

## Elk

Wanted—More room for the greatest Elk convention on earth.

In the southern part of Yellowstone National Park, and thence southward into the great valley known as Jackson Hole, there is the greatest of the surviving herds of American elk, or wapiti. Protected from their natural enemies, guarded by a strict closed season, fed with hay when natural forage fails, they have increased to more than 20,000 head, and are crowding the space and sustenance available for them.

O. J. Murie of the U. S. Biological Survey set forth the problem and suggested needed remedial steps. At present there are some ranch lands in the valley, and though part of these have been bought by groups of philanthropic citizens for dedication as a game range, there still remain some areas which must be added if the great herd is to be handled in the most natural and at the same time most efficient manner.

*Zoology*

*Science News-Letter, January 4, 1930*

## Acid Soil

The Great Smoky Mountains, of the Tennessee-North Carolina boundary, where a new national park is being developed, owe their peculiar and rich plant life largely to the highly acid character of their soil. So Stanley A. Cain of Butler University has found.

The Great Smokies are a great mass of granite, which is naturally an acidic rock. They are furthermore exposed to one of the rainiest climates in the United States—ranking only behind the north Pacific coast

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and the southern tip of Florida in annual inches received. This causes the development of a thick vegetation, but the dead leaves and branches do not decompose perfectly, so that the resulting soil has an unusually high acidity.

This in turn results in the development of acid-loving vegetation types to an unusually high degree. Mosses which usually grow only in bogs grow freely there on high mountains and form peat deposits at altitudes of five or six thousand feet. The great laurel and rhododendron thickets, called "laurel slicks" by the mountaineers, have this highly acid soil to thank for their presence and their magnificent display of bloom in the spring.

*Chemistry*

*Science News-Letter, January 4, 1930*

## Rot

The next victim of a well-aimed and rotten orange, grapefruit or sweet potato can immediately get to the root of his troubles by blaming a common microscopic fungus, a close relative to the cause of dry rot in corn, Dr. A. H. Eddins, of the Florida Agricultural Experiment Station, believes.

This organism was tested on corn by Dr. Eddins. The symptoms produced were all similar to the usual dry rot.

This fungus also causes a rot on watermelons.

*Mycology*

*Science News-Letter, January 4, 1930*

## Fossil Forest

Indiana can boast of the remnants of a petrified forest like those of Arizona and Yellowstone National Park, except that the trees are much older, says Dr. Chester A. Arnold of the University of Michigan.

During the past summer he investigated reports that had come in from a number of sources, of petrified tree trunks in shale deposits in the southern part of Indiana. He found numerous trunks, in localities widely scattered over the whole region. They are often of large size, the largest specimen observed being nine feet long and three feet in diameter. They are all lying flat, and have no roots or branches.

The trees, Dr. Arnold said, are of Devonian age—older than the coal measures. Microscopic studies of the wood show them to be primitive gym-

## A. S. Sessions

nosperms, possibly ancestral to our modern pines. They are especially interesting, he concluded, in view of the fact that the most ancient land-inhabiting plants we know about existed during Devonian times, and these trees may be near the starting point of higher plant evolution.

*Paleontology*  
*Science News-Letter, January 4, 1930*

### "Sunflower State"

Kansas has long borne the nickname of "Sunflower State"; but she must look to her laurels, or rather to her sunflowers, for her neighbor commonwealth of Iowa is pressing her closely for the honors of prairie botany. An Iowa botanist, Miss M. Rae Johns of Davenport, reviewed the army of Iowa sunflowers and their relatives. There is an imposing array of them: sixteen genera, comprising scores of species, ranging from the true sunflowers down to tiny creeping things like the introduced weed *Galinsoga* and up to the towering ragweeds, hated of hayfever sufferers.

*Botany*  
*Science News-Letter, January 4, 1930*

### Raising Rust

Better understanding of stem rust of wheat, which destroys a large part of America's crop, is promised by Margaret Newton, Thorvaldur Johnson and A. N. Brown, of the Dominion Rust Research Laboratory, Winnipeg, Canada, following recent experiments.

The varieties of rust which they produced in the laboratory are among the first hybrid fungi. Some new forms not known to exist in nature were raised.

*Mycology*  
*Science News-Letter, January 4, 1930*

### Not Irish

The lowly white potato, nicknamed "Irish" by some, whose more than 350,000,000 bushel annual production in the United States is the root of so serious an agricultural problem that the Federal Farm Board has set it apart for special treatment, is a native of America, like corn and tobacco. The Incas of Peru had it under cultivation for centuries before the Spanish invasion.

The tuber's history, from the time it was an important food in this lost South American civilization, as prehistoric mounds show, was traced through a slow rise to its present day

place of prominence next to bread, by William Stuart of the U. S. Bureau of Plant Industry.

For 150 years after its discovery by Europeans, only well-to-do people ate the potato. It was raised in their gardens and the lower classes knew of it by hearsay alone.

Commercial production was begun about 1750. Now, by artificial propagation and sexual reproduction, science is producing new and improved varieties of the original potato.

*Botany*  
*Science News-Letter, January 4, 1930*

### Weed-Killer

Zinc sulphate, sometimes called white vitriol, will kill weeds in a plant bed full of conifer seedlings but will not harm the little trees, Prof. Ferdinand H. Steinmetz and Prof. Fay Hyland, of the University of Maine, have found.

Eight grams of zinc sulphate, dissolved in sufficient water and sprinkled over a square foot of ground, is most effective, it was learned. Germination of the seeds and growth of the little trees was only slightly reduced by the dose, while practically all the weeds were killed.

*Agriculture*  
*Science News-Letter, January 4, 1930*

### Fastidious Fungus

Apples should not be raised in a cedar-growing region and cedars should not be raised in an apple-growing region, Donald E. Bliss, pathologist at the Iowa Agricultural Experiment Station, has found.

A fastidious fungus which must make its home in apple trees and cedars at different times during its life keeps these trees from being neighbors.

On apples this fungus is known as apple rust; on cedars, as cedar rust. It must move from one tree to the other to complete its life cycle.

*Mycology*  
*Science News-Letter, January 4, 1930*

### First Corn

If a farmer would have the earliest crop of corn in his neighborhood, let him plant it first on the richest ground, Dr. J. R. Holbert, U. S. Agronomist at the Illinois Agricultural Experiment Station, advises.

Rich soil also helps make the latest corn, Dr. Holbert said, because in each case the soil fertility increases the resistance of the corn to cold. However, a naturally cold-sensitive strain will not equal naturally cold-resistant strain, even when grown in highly productive soil, he cautioned.

*Agriculture*  
*Science News-Letter, January 4, 1930*

### Dying Elms

America's most beautiful shade tree, the stately elm, may follow the chestnut to destruction if infected by the Dutch elm disease, which has already devastated the elms of Holland, Belgium, France and Germany, said Dr. Christine Buisman, a noted professor of plant pathology of the University of Utrecht, Netherlands.

Methods of controlling the disease have not yet been found, Dr. Buisman said. The only thing that can be done now is to test varieties of elms to determine their resistance and propagate the most promising ones. There is nothing to show that the disease will decrease in the course of time.

A tree first shows the effects of the disease when the twigs curl and the leaves of the whole tree or some of its branches suddenly wither and turn down. The leaves do not fall immediately, those in the top remaining for several weeks. In the wood of a diseased tree conspicuous reddish-brown streaks become visible. A tree thus affected may die within the year or it may live for several years. Most of the affected trees are from 15 to 40 years old, accounting, perhaps, for the rarity of the malady in nurseries.

The disease first appeared in Holland in 1920. It has gradually spread through Belgium, France and Germany, and since 1927 it has been reported from England.

The spores of the causal agent are principally disseminated by the wind and enter the wood through small wounds.

*Forestry*  
*Science News-Letter, January 4, 1930*

### Hardiness Tested

Scientists may soon be able to determine the hardiness of plants by laboratory tests, as the result of experiments conducted by Prof. S. T. Dexter, of the University of Wisconsin.

When a wilted carrot or potato soaks up water and becomes crisp again, it does so largely by the process of osmosis. Just the opposite happened in Prof. Dexter's experiments. He put several varieties of alfalfa roots in freezing water at different seasons. The loss of sap was measured and it was found that the hardiest varieties lose least sap in the winter.

"If the measurements in the experiments can be standardized," Prof. Dexter says, "they may serve as indices of plant hardiness."

*Botany*  
*Science News-Letter, January 4, 1930*