

same region, as well as from trunks of both conifers and broad-leaved trees in Kentucky, appear to be in a "closed-down" condition in specimens collected during the winter months. The Oregon broad-leaved trees also seemed to have a period of little or no growth enforced upon them by the midsummer drought of the region.

Thus condemned to inactivity during two long periods in each year, while their evergreen competitors are able to grow continuously throughout nine or ten months of mild, moist autumn, winter and spring, the broad-leaved trees have lost the race for supremacy in the Northwest Coast region and the forest there has come to consist almost entirely of such conifers as Douglas spruce, grand fir, coast cedar and yellow pine.

Prof. Hemenway has communicated a brief preliminary report of his investigation to *Science*, with the statement that a complete detailed account will be published shortly.

*Science News Letter, November 18, 1933*

## ENTOMOLOGY

## Bee Uses 22 Muscles When She Stings You

**W**HEN A BEE stings you, she uses 22 muscles to carry through three distinct movements of her weapon. So says R. E. Snodgrass of the U. S. Bureau of Entomology, in a report on the morphology of the insect abdomen which has just been issued by the Smithsonian Institution. The first movement thrusts the sting out, the second swings it downward, and the third works the little lancets that bury the sting in the victim's flesh.

The sting of a bee or wasp, Mr. Snodgrass states, is a modified ovipositor or egg-laying organ, and the poisonous sac that supplies it with its peculiarly painful ammunition is one of the accessory sex glands. The idea that a bee "feels around" for a favorable place to thrust home its dagger is a fable, he continues. Stinging is largely an automatic art. When a bee "sits down" on her victim, "the highly mobile abdomen swings around in all directions and the decurved tip strikes at random until an object is encountered which, if nothing else presents, may be the body, head, or mouth of the bee herself."

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Tasteless quinine is a recent product of the laboratory.

## ORNITHOLOGY

# American Ornithologists Celebrate Semi-Centennial

## "Native Wood-Notes Wild" Caught With Sound Truck; 58,000 Birds Banded by Businessman-Naturalist

**B**IRD SONGS, recorded with motion pictures of the birds themselves, were demonstrated before the meeting of the American Ornithologists' Union in New York by a hunting team consisting of two scientists and one financier: Prof. A. A. Allen of Cornell University, Albert R. Brand, New York banker, and P. P. Kellogg, Cornell graduate student.

Most ornithologists, even professional ones, are satisfied if they can get close enough to a bird and its nest to get a good photograph, either movie or still, but Mr. Brand has succeeded in stalking his shy quarry with the whole ponderous heavy artillery of a sound-recording truck.

Mr. Brand went about the business of hunting songs with a sound truck in a most business-like way. Having "graduated" from Wall Street, he enrolled as a student at Cornell University, and studied ornithology under Prof. Allen for a whole year. Then he made an alliance with him and Mr. Kellogg, and the three went a-hunting for bird songs.

Any one who has ever seen the elaborate precautions taken against extraneous sounds in a "talkie" studio, where a dropped leadpencil or a cough is almost a capital offense, will appreciate the difficulties faced by the song-hunting expedition in the field, where no amount of shushing can stop leaves from rustling, insects from shrieking close to the "mike," or lonesome cows from mooing.

### Evolution in Tennessee

Tennessee, once the eruptive center of anti-evolutionary activity, is now the scene of one of the most interesting bits of contemporary evolution. For in that state there has been produced, by natural processes, a beautiful red variety of the native quail or bob-white. Dr. Herbert Friedman of the U. S. National Museum, told of the development of the new variety and of the good work of Tennessee naturalists and game au-

thorities in encouraging and propagating it.

Fifty-eight thousand birds, each with a light metal band around one leg telling where it had been, have passed through the hands of W. I. Lyon of Waukegan, Ill. Mr. Lyon makes his living as a real estate dealer, and follows ornithology as a scholarly hobby. At the meeting of the Union, he reviewed his years of activity as a bird bander. His records show that he has taken part in tracing the migrations and other life activities of no less than 58,000 birds.

*Science News Letter, November 18, 1933*

## BOTANY

## Strange Puffball Has Stalk Ending in Foot

**A** PECULIAR fungous growth from the Colorado Desert is being studied by Elizabeth Eaton Morse, graduate student at the University of California. It looks like a tall puffball growing at the top of a woody stem with a much enlarged base.

At first sight, the finder might mistake the plant for the common shaggymane mushroom, *Coprinus comatus*. But if it is split along its length, one finds that the structure within is entirely different from that of any gill fungus. The scaliness of the outer coat contributes to the deception.

Miss Morse has received specimens from lands far removed, all from desert or sandy regions within forty degrees north and forty degrees south of the equator. Although widespread, occurring in north, west and south Africa, Madagascar, India, Hawaii, Brazil, Jamaica, the plant may be considered rare except in certain limited areas where conditions for growth are the most favorable.

After a careful comparison of all specimens with abundant Colorado Desert collections, Miss Morse is inclined to believe that there is really only one



PUFFBALL WITH A FOOT

exceedingly variable species, *Podaxis pistillaris*. This name refers to the enlarged "foot," to the fact that the stem extends through the head to the summit, and that the plant is club-shaped.

This fungus has been described under eight different genus names and twenty-five species names, due, doubtless, to great variations in size, color, and to different external and internal aspects at different stages of development.

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A railroad in Minnesota is planting willows, conifers, and other trees to serve as snow catches along its right of way.

The University of Wisconsin has a new "chair of game management" to promote the raising of game birds and game animals as part of regular farming operations.

AGRONOMY

## Agricultural Scientists Seek New Crops For the Desert

Products That Will Not Compete With Those of Older Farm Lands to be Grown in Boulder Canyon Region

**W**HAT CROPS shall be grown on the new million acres of land in Arizona and California that will be brought under irrigation by the Boulder Canyon Dam now being built? What can be planted that will not add to the already terrific problem of agricultural over-production?

These are the questions that have been put to research scientists in the U. S. Department of Agriculture. The hunt for non-competitive crops for America's coming New Egypt is on.

The problem can be solved, the scientists are confident, because of the unique character of the climate of the prospective new farming area. The great bulk of American farm lands are in regions of humid climate, depending on rainfall for their water supply, and not having the hot sun and dry desert air of the Southwest. Their crop possibilities are already well realized, and while the Southwest irrigated country can compete with some of them, the moist-climate areas cannot compete with the irrigated Southwest in producing the crops to which that region is best adapted.

An irrigated land with hot sun and dry air must look to such countries as Egypt and Mesopotamia, the first homes of farming, for agricultural suggestions. And this is just what the Department of Agriculture scientists are doing.

### Home-Grown Sewing Thread

One of the staple crops of the Boulder Dam area will probably be Egyptian cotton, especially the American-bred Pima variety of Egyptian cotton, and a new Pima-Sakel hybrid suitable for making sewing thread. These cottons are not competitors with the varieties grown from Texas to Georgia. They are special, long-fibered cottons, used mainly for tire fabric, sewing thread, fine lisle hosiery, and certain other special kinds of clothing. The American market absorbs all the Egyptian-type cotton that can be grown in the Southwest at present, and sends to Egypt for thou-

sands of bales more. It is expected that much of this present import requirement can be met by extending Egyptian cotton culture into the new irrigated lands as they come available.

Another possibility of the area is dates. The American consumption of dates at present is only half a pound a year per capita. Canadians eat twice as many and Englishmen three times as many. If the American demand can be raised merely to the Canadian level, that would mean a market for 120,000,000 pounds of dates a year. Supposing that half of that requirement will still be met by dates imported from the Near East, as at present, the new domestic market could take care of all the dates raised on 10,000 acres of land, at the yield rate of American date orchards at present in bearing.

### From the Land of the Califs

Another fruit now imported largely from the land of the Califs is the Smyrna-type fig. This is also a possibility for the Boulder Dam area, for it requires the oasis climate provided by irrigation under a hot sun.

These three crops are well-tested possibilities for Southwestern irrigated agriculture. They are not competitors with agriculture elsewhere in the United States, and it is probable that they will take some years of development before they can make a serious bid to replace all imports in their respective fields.

Before any of these can be recommended to settlers on the new lands, they must be tested out in the region, their possibilities realized, and adaptations made to overcome difficulties of cultivation and handling. For this reason it seems desirable that the Department of Agriculture scientists should go now into this unirrigated desert region, make limited test plantings irrigated with water from deep wells, and arrange a planned agriculture for the country in advance of its settlement.

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