Nature Ramblings

By Frank Thone

Natural History

Liquidambar

Anybody who is planning on putting a group of shade or ornamental trees, whether in a park planting, around a country house or even on a fair-sized city place, will do well to remember the liquidambar, or sweet-gum. This splendid tree of the American southeast is at least moderately hardy, and will thrive in cultivation many hundreds of miles north and west of its natural range.

It may have to be nursed a bit while it is little, and there will alway remain the danger that a too-stiff windstorm will wrench off a limb, for its wood is none too strong; but even so, it will, in many future autumns, repay a thousand times over the care it gets.

For there is scarcely a tree that can show such splendid leaves in the fall. Pointed like stars, they change from their strong summer green to a deep wine-purple that is the very blood of the sun. An autumn-colored liquidambar against a sunset sky, with the light shining through its sanguine leaves, is a sight not soon to be forgotten.

The fruits of the liquidambar tree also are worth growing to look at, though they are not good for even birds or squirrels to eat. They are such curious-looking things, bristling toward all the stars with their hundred sharp little points, like maces for the wars of fairy cavalry.

And the twigs of the tree intrigue one's interest as well, for they have caught the trick, known to a few widely scattered woody plants, of developing their cork in long, narrow streaks, so that they come to be ridged wtih "wings" of bark. All round, the sweet-gum is a tree of great interest as well as great beauty.

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About 28 cents of the consumer's dollar spent in retail stores goes for food.

Photographs Show Altitude Records

Photography—Aviation

A new method of determining the altitude of airplanes above the ground is foreçast here as the result of photographs made on a recent record-breaking flight of the Army Air Corps. The flight was made by Capt. St. Clair Streett, accompanied by Capt. Albert W. Stevens as observer and photographer. Though the Bureau of Standards has not yet checked up on their altitude, they are believed to have reached 40,200 feet, at which height they made photographs of the city of Dayton, Ohio. This altitude is higher than the present record for a plane with one man, two men, or photography.

Despite a scattering of clouds at 6,000 feet, the photographs show the highways and outstanding structural characteristics of the territory below with remarkable clarity. So distinct are the pictures, in fact, that they could stand enlargement to ten diameters. The high altitude photographs taken by Captain Stevens offer a new method of obtaining altitude measurements. If three or more points on the ground are shown, the distances between which are known from accurate ground survey data, by measuring the distance of the image separations on the negative and knowing the distance from the negative to the optical center of the lens in the camera, then the problem of the length of the perpendicular dropped from the lens to the ground becomes a geometric one of similar triangles, and can be figured in feet or meters to within one-tenth of one per cent. mathematical accuracy. Comparison of the results thus obtained with those gained from the barograph formula method employed by the statisticians, will undoubtedly prove both interesting and important.

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Rays from Cells Doubted

Biology

The emanation of rays from living cells, which speed up the division of other cells, as claimed by the Russian scientist Dr. Gurwitsch, has been denied by two German plant physiologists at the University of Rostock, Prof. H. von Guttenberg and Dr. Rossmann. They state that a careful repetition of the work of the Russian experimenter, performed exactly according to the methods he describes and checked by observation of control experiments, has failed to produce the results described at first. Not only did living cells fail to show any changes which might be attributed to other cells supposed to be sending their rays into them, but a more delicate test, wherein the supposedly radiant cells were placed in contact with photographic plates, also gave negative results, according to the two German researchers.

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New Things in Tobacco

Chemistry

Two new tobacco alkaloids have been isolated by Dr. N. Ehrenstein of the University of Munich. One of these new compounds is known as "nornicotine," and is an isomer, or chemical double, of the old familiar nicotine. The other bears the tongue-tripping title of "pyridyl piperidine."

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In a list of 13,500 American scientists, more than one-fifth are chemists.

Nineveh and Ur

Archæology

Ruins of Nineveh, Ur, Kish, and other famous centers of Tigris-Euphrates civilization will soon be busy scenes of archæological activity. October weather starts off the archæological season in Iraq, and this year as many as nine expeditions will be digging and exploring in this region east of Palestine.

Ur of the Chaldees, which last year gave up royal burials of startling pomp and ceremony, will again be visited by the joint expedition of the British Museum and the Museum of the University of Pennsylvania. This is the expedition's seventh season at Ur. Oxford University and the Field Museum will also start their seventh year's joint work, at Kish.

Nineveh will be further explored, according to plans by Dr. R. Campbell Thompson. German archæologists will work at sites bordering the Tigris and at the site of Erech, mentioned in Genesis. French scientists will resume pre-war excavations at Tel-O. An expedition from the University of Michigan will seek the lost town of Opis, near Ctesiphon.

A search for oldest inhabitants of the region wil be made by Miss Daisy Garrod, leading a Joint Expedition of the Percy Sladen Memorial Fund and the American School of Prehistoric Research. This group will explore cave deposits along the Iraq-Persian border, seeking fossil bones of prehistoric men.

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