

ENTOMOLOGY

No Need for Alarm Over Seventeen-Year "Locust"

Insects, Which Are Not Really Locusts, Seldom Cause Serious Damage and War Against Them Would Be Wrong

NO ALARM need be felt over the advent of the seventeen-year "locust" brood of 1931, scheduled to appear in vast hordes early in June in the region centering about the eastern two-thirds of Ohio and comprising portions of Pennsylvania, West Virginia, one or two points in Virginia and the north-eastern corner of Kentucky, U. S. Department of Agriculture entomologists announce.

Wrongly confused with the grasshopper plague of Egypt, the seventeen-year "locust" is really a cicada and an almost harmless relative of the harvest fly though it appears formidable because of the noise it makes and the great numbers in which it sometimes appears.

Indeed, the crop danger is confined almost entirely to very young plants, such as nursery trees, and the damage done, even by a record brood, is slight.

For this reason attempts to exterminate the seventeen-year "locust" are uncalled for and it would actually be a shame if the species were destroyed, is the opinion of J. A. Hyslop, entomologist in charge of Insect Pest Survey of the Bureau of Entomology.

Living for seventeen years underground and hatching almost to the day, year in and year out, whether the season is warm, cold, wet or dry, the seventeen-year "locust" is a biological curiosity which should be preserved for the interest of future generations.

Study of these strange insects has already held the interest of scientists for about a century and they are able to forecast with a high degree of certainty the size and distribution of the brood which is due to appear by the history of the "locust" crop of 1914.

This year's seventeen-year "locust" crop is designated as brood five in the series of seventeen annual hatchings which occur in rotation. Not so large as Brood 10, the brood of 1931 is, nevertheless, very numerous and well defined in the regions where it occurs. Its advent has been heralded by the appearance of numerous small holes in the

ground, from which the locust emerges from its Rip Van Winkle-like rest.

Always appearing about the end of May, the seventeen-year "locust" persists through June and disappears by the Fourth of July. During the four or five weeks of their life above ground, the insects feed very seldom or not at all, depending on the reserves accumulated during their long underground life. Damage may be caused, however, when the females deposit their eggs in furrows cut into the green bark of young twigs. This causes a temporary defoliation of many trees, but no permanent harm in the forests. It does at times cause damage, however, in orchards and nurseries.

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PHYSIOLOGY

Tooth Enamel Consists Of Apatite Crystals

APATITE, appropriately enough, is one of the constituents of teeth, it appears from a report of the Superintendent of the Physics Department of the National Physics Laboratory, Lon-

PHYSICS

Hundred Per Cent Efficient Light Produced in Laboratory

AN ELECTRIC lamp converting current into light completely without producing heat has been operated in a laboratory experiment by Dr. M. Pirani, director of the Society for the Study of Electric Lighting at Berlin. The new tube is not suitable, however, for domestic or industrial lighting.

The invention of a light that would avoid wasting 80 to 90 per cent. of the current as heat has been the goal of physicists and engineers for years. Dr. Pirani's new light, however, is actually heated by a furnace on the outside.



AFTER SEVENTEEN YEARS

The Cicada, misnamed "Locust", makes his way toward the surface, to shed his outworn swaddling-clothes, flit his few brief days in the sun, mate and die.

don. In normal teeth, the enamel consists of apatite crystals together with a second crystalline substance, at present unidentified, the report states. The National Physics Laboratory has been making a preliminary study of the crystal structure of teeth at the request of the Dental Research Board.

Apatite is not an emotion but a mineral. It is made up of calcium, fluorine and phosphorus, and occurs in various-colored six-sided crystals.

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The tube is a modification of the gas discharge tubes used by neon lights in advertising and recently brought to a 30 per cent. efficiency by Dr. Pirani. He now finds that if the losses due to the higher temperature of the discharge tube are taken care of by a separate source of energy, that a completely heatless conversion of electricity into light energy is obtained. The current is carried by sodium vapor at low pressure and is bright yellow in color. The discovery is only of theoretical value now.

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