

PUBLIC HEALTH

Potential Health Menace In New Yellow Fever Mosquito

**Aedes triseriatus, Which Flies From Maine to Florida
And West to Montana, Is Found To Be Potential Carrier**

A NEW potential danger to health has appeared in the form of a widely distributed mosquito that can carry the virus of deadly yellow fever. Discovery of the mosquito's ability to carry this virus is reported by Drs. Byron L. Bennett, Fred C. Baker, and Andrew Watson Sellards. (*Science*, Oct. 28) The find was made in studies at Harvard and Cornell Universities.

Yellow fever is ordinarily carried by the *Aedes aegypti* mosquito, which is found chiefly in tropical and semitropical regions, occasionally getting as far north as Philadelphia in the summer. The new yellow fever carrier, *Aedes triseriatus* by name, is distributed from Maine to Florida and as far west as Montana.

Yellow fever does not exist in the United States today. If, however, a few cases should by a remote chance slip through the quarantine lines, the disease could, with the aid of the newly-discovered carrier, sweep across almost the entire country.

The fact that *triseriatus* has been discovered to be a yellow fever carrier only under laboratory conditions suggests that it probably is not a natural carrier of the disease. If it were, it seems likely that its role would have been discovered much sooner.

Unsolved Problem

Yellow fever, however, has recently proved to be much more of an unsolved problem than it was considered a decade ago or even five years ago. After the demonstration by Walter Reed and his associates that yellow fever was carried by the *aegypti* mosquito, everyone thought eradication of the disease through mosquito control measures was quite possible.

These measures did suffice to free the United States of the disease, but efforts to do the same in Africa and South America have not been so successful. One reason, Rockefeller scientists recently found, is the fact that yellow fever, disguised under the name of jungle fever, exists in much wider territory

than supposed. Another reason is the discovery that it can be carried by insects other than the ordinary yellow fever mosquito. Scientists have recognized this for some time before the present discovery of *triseriatus* as a yellow fever carrier.

Expansion of rapid air travel has brought the yellow fever areas dangerously close to regions like the United States that considered themselves safe from this much-dreaded ailment. This has provided another complication in the yellow fever control problem.

The one fortunate aspect of the sit-

uation is the success of the anti-yellow fever vaccine developed by Rockefeller Foundation scientists within the past few years. Persons living near or in yellow fever areas can be protected by this vaccine and it can also be used to check the spread of yellow fever by giving it to air crew and passengers coming from yellow fever regions.

Science News Letter, November 12, 1938

ZOOLOGY

National Zoological Park Has White Bison Bull

A WHITE bison bull, an animal rarer even than the sacred white elephant of Siam, is an inmate of the National Zoological Park. The albino animal was born on the National Bison Range near Moiese, Mont., and was presented to the zoo by the U. S. Biological Survey.

White bison were great rarities even in the days of the vast herds on the western plains, a couple of generations ago. The Indians considered them sac-



RARE

Any bison is rare enough, but a white bison bull like this is rarer than the sacred white elephant of Siam. This one is at the National Zoological Park.

red. One plains tribe, the Atsina, used to kill large numbers of bison by driving them over cliffs. But if they found one white animal in the mass thus slaughtered wholesale, only the direst necessity could drive them to take the meat or hides of any part of the whole herd.

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PHYSIOLOGY

Vitamins From A to Z Are Fact, Not Fancy

THE IDEA of the vitamin alphabet stretching from A to Z is no idle myth. It really does. Fortunately, however, you need not remember all of them when you sit down at the dinner table.

Vitamins V, X, and Z, to start at the wrong end of the alphabet, are only important in the nutrition of bacteria. Some of the other end-of-the-alphabet vitamins are a necessary part of insects' diets.

T is about as high as vitamins for higher animals go. Vitamin T is found in egg yolk and sesame oil. It increases the number of platelets in rat and human blood. Platelets play a part in making the blood clot so you won't bleed to death after a cut.

About midway in the alphabet there is vitamin L, found in yeast and liver, and needed by young mother rats for nursing their first litter. Another midway vitamin is P, a substance closely related to anti-scurvy vitamin C, and also found in lemon juice and red peppers. A newcomer among the vitamins, its exact function is not certainly known, but it seems to help the body retain vitamin C.

New and unlettered vitamins are a gizzard erosion factor found in grain and needed by young chicks, and a grass juice factor that influences growth in rats.

Going to the other end of the alphabet, there is growth vitamin A, probably formed in the liver from the yellow coloring substance of foods like carrots and butter. Vitamin B has been split into at least nine parts. Most important are the first three: thiamin, nicotinic acid (prevents pellagra) and riboflavin. Vitamin C, from fruits and vegetables, prevents scurvy. Vitamin D, from sunshine or cod liver oil, prevents rickets. Vitamin E, from wheat germ, is necessary for reproduction. Vitamin K, another newcomer found first in alfalfa, prevents hemorrhage in some conditions.

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ASTRONOMY

Telescope Mounting Awaits Assembly at Mt. Palomar

Pieces Weighing as Much as 50 Tons Have Made Trip Up Winding Mountain Road and Are Laid in Position

See Front Cover

THE mounting for the great 200-inch telescope of the California Institute of Technology lies in pieces in the huge telescope dome on Palomar Mountain following a unique transportation job.

Pieces weighing as much as 50 tons each had to be taken by truck and trailer up the winding road that leads to Mt. Palomar's peak, destined in a short time to be the mecca for astronomy. Loads had to be transferred from one trailer to another at sharp turns in the road and sometimes top-heavy pieces had to be guyed to stone ballasts on auxiliary trucks to keep them from toppling where the road banked. But in expert hands the job went without mishap.

The last and largest of three shipments has now reached the observatory from San Diego, where they had come by steamer from the machine shops of the Westinghouse Electric and Manufacturing Company in South Philadelphia. More than half of the 300-ton load was contained in the bearing for the northern end of the telescope mounting. It arrived in three chunks, each weighing more than 50 tons.

When put together with dowel pins again these pieces will make up an accurate 30-foot circle with a V-shaped bite taken out of it so that the telescope can look right up along the axis of rotation to the North Pole in the sky.

The various structural parts, including the bearings and the 60-foot tube, are now laid out on the floor of the dome in positions carefully planned to facilitate assembly. Capt. Clyde MacDowell, supervising engineer for the project, arranged for everything to dovetail even though there were no precedents for such a job.

A special 70-ton crane had to be purchased for the occasion and it was a ticklish matter to lift the massive parts from the rolling ships with the floating crane.

While the structural parts are being

assembled, the optical work on the mirror itself is proceeding smoothly in Pasadena.

The illustration on the cover of this week's SCIENCE NEWS LETTER shows the dome in cross-section as pictured by Russell W. Porter, of the California Institute of Technology.

The telescope proper is the vertical structure while its massive mounting points upward to the right. The longest focal length, and the largest images, are obtained with the coude form of use in which the observer (1) standing at the left looks up the polar axis of the telescope mounting. In the coude form the light rays enter vertically downward, are reflected back up to a smaller convex mirror at the top, then back down to a small plane mirror and hence down the polar axis to the observer. In the Cassegrainian form the rays leave the great 200-inch mirror, go upward to a convex mirror and then back down and out through a hole in the great mirror to an observer in position (2). When used at its principal focus an observer (3) sits in a small cage near the top of the telescope and observes with only a single reflection off the great mirror. This is done where weak light requires a minimum of light losses due to multiple reflections. The aperture of the telescope at principal focus is $f\ 3.3$, at Cassegrain focus $f\ 16$ and at coude focus $f\ 30$.

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MEDICINE

No Nobel Prize Awarded In Medicine This Year

THE Nobel Prize in medicine will not be awarded for 1938, the Caroline Institute has decided. The money will be funded until next year.

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Tularemia is never transferred from man to man: infection comes from contact with an infected rabbit or other small field animal or from an insect that has fed upon an infected animal.