MEDICINE

Filariasis Under Attack

Progress with four chemical compounds is being made against this tropical disease which attacked service men in the South Pacific and causes elephantiasis.

➤ PROGRESS in chemical warfare against a disease affecting hundreds of millions of persons, though it seldom causes an epidemic, was announced at meetings at the New York Academy of Sciences in New York.

The disease is filariasis. It is a tropical disease which attacked some of our fighting men in the South Pacific and caused grave concern to many more because of the elephantiasis which is a late result in untreated cases.

Until recently, hardly any chemical tried against it succeeded as a remedy. The disease is caused by a kind of worm and is spread by mosquitoes.

Today, four kinds of chemical compounds show promise of leading to conquest of filariasis. The four are: new antimony compounds (antimony has long been the stand-by for treatment of the disease); arsenical compounds; cyanine dyes; and piperazines.

One of these piperazines, called hetrazan for short, was given to 26 filariasis patients in Puerto Rico, Dr. J. Oliver-Gonzalez of the School of Tropical Medicine, Puerto Rico, reported.

They got the drug by mouth three times a day. In all cases the number of baby or embryonic worms, called microfilariae, in their blood was markedly reduced in two days. In nine of the 26 none could be found at this stage of treatment. In 11, tests 30 to 150 days after treatment, which was given from three to 22 days, no microfilariae could be found. In the remaining 15 all but one had reductions of 85% or more from the original count of microfilariae. Nine patients followed for four to five months have shown no recurrences.

Even in those who did not get to zero in the count of microfilariae in their blood, the number was so reduced that mosquitoes could not become infected. This is of great importance, Dr. Oliver-Gonzalez pointed out, in considering the usefulness of the drug.

Safety of the drug was reported by Dr. D. Santiago-Stevenson. Patients had no severe reactions though some developed fever during the first two days.

The drug may also kill the grown-up worms, believed responsible for blocking the lymph channels and causing the grotesque and often horrible swelling of elephantiasis. Evidence for this in the patients was reported by Dr. Santiago-Stevenson and also in laboratory studies on cotton rats and dogs treated by Drs. R. I. Hewitt, D. E. White, S. Kushner, W. S. Wallace,. H. W. Stewart and Y. Subbarow of Lederle Laboratories, Pearl River, N. Y., where the drug is made.

Cyanine dyes are now also being tried on patients in Puerto Rico, Dr. L. Peters of Western Reserve University, Cleveland, reported. These dyes are prepared by Dr. L. G. S. Brooker of Eastman Kodak Research Laboratories. Tests on rats and dogs by Dr. Peters and Dr. E. Bueding at Western Reserve and by Dr. J. T. Litchfield and associates at the University of Minnesota show the dyes to be effective in animals. They have to be given by injection into the veins to get the best results .

Science News Letter, November 1, 1947

PHYSICS

Shock-Absorbing Liquid Found Among Silicones

➤ SPRINGY liquids capable of use as a new type of shock-absorber have been discovered among the novel forms of matter known as silicones. This unusual property was detected by measurement of inaudible sound in the new fluids, which are already famous for their resistance to extremes of temperatures.

Properties of silicones, which are near relatives of both the rocks of the earth and the plastics of industry, were discussed at the high polymer forum of the American Chemical Society meeting in New York. Dr. Alfred Weissler of the U. S. Naval Research Laboratory told how ultrasonic waves measured by a new method in the silicone liquids can be used to determine the weight of these giant molecules. Their unusually high compressibility was discovered during these determinations.

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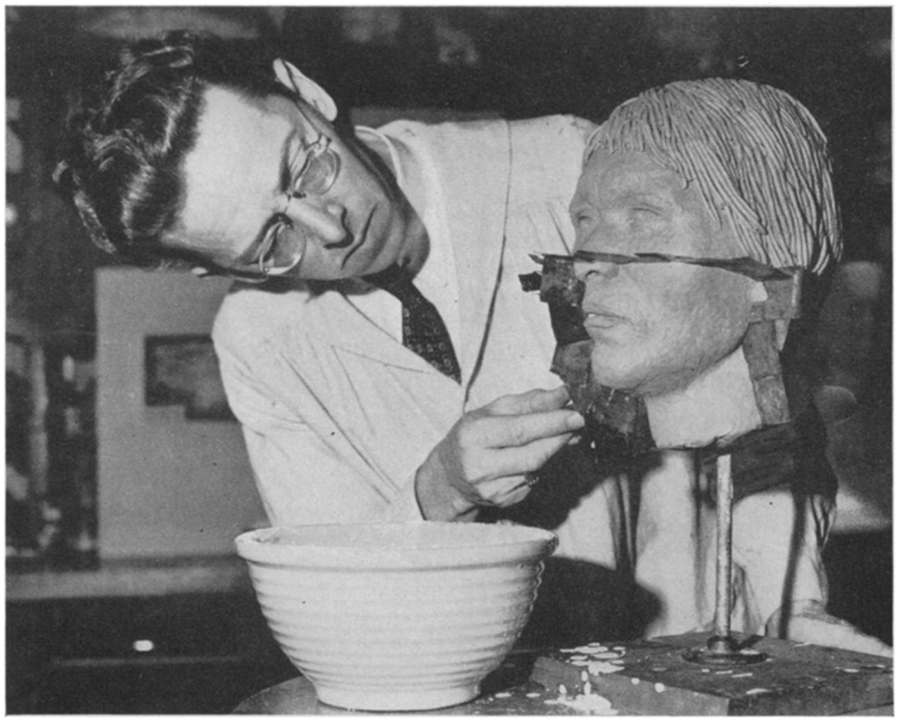

TEPEXPAN MAN—Found recently in a Mexican lake-bed dating some 10,000 to 15,000 years ago. (See SNL, July 5). His bones were brought from the Mexican National Museum to the Smithsonian Institution in Washington and there reconstructed. A. Joseph Andrews is making a cast of the head which the museum hopes to send to the United Nations Scientific Meeting in Mexico.